U.S. Army Center for Health Promotion and Preventive Medicine

FORT BLISS 1989 DATABASE
TECHNICAL REPORT NO. 29-HE-8093B-99

DATABASE DESCRIPTION DEMOGRAPHICS, ANTHROPOMETRICS, RISK FACTORS/ AND FITNESS MEASURES

Prepared By:

John W. Gardner, MD, DrPH; COL, MC, FS, USA
Rose M. Popovich, MPH
Vitaly Ovchinnikov
Matt Tolman
Bruce H. Jones, MD, MPH; COL, MC, USA

December 1997

DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

Department of Preventive Medicine and Biometrics
Uniformed Services University of the Health Sciences
Bethesda, MD 20814-4799

Office of Epidemiology and Disease Surveillance
US Army Center for Health Promotion and Preventive Medicine
Aberdeen Proving Ground, MD 21010-5422

Readiness Thru Health

U.S. Army Center for Health Promotion and Preventive Medicine

The lineage of the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) can be traced back over 50 years. This organization began as the U.S. Army Industrial Hygiene Laboratory, established during the industrial buildup for World War II, under the direct supervision of the Army Surgeon General. Its original location was at the Johns Hopkins School of Hygiene and Public Health. Its mission was to conduct occupational health surveys and investigations within the Department of Defense's (DOD's) industrial production base. It was staffed with three personnel and had a limited annual operating budget of three thousand dollars.

Most recently, it became internationally known as the U.S. Army Environmental Hygiene Agency (AEHA). Its mission expanded to support worldwide preventive medicine programs of the Army, DOD, and other Federal agencies as directed by the Army Medical Command or the Office of The Surgeon General, through consultations, support services, investigations, on-site visits, and training.

On 1 August 1994, AEHA was redesignated the U.S. Army Center for Health Promotion and Preventive Medicine with a provisional status and a commanding general officer. On 1 October 1995, the nonprovisional status was approved with a mission of providing preventive medicine and health promotion leadership, direction, and services for America's Army.

The organization's quest has always been one of excellence and the provision of quality service. Today, its goal is to be an established world-class center of excellence for achieving and maintaining a fit, healthy, and ready force. To achieve that end, the CHPPM holds firmly to its values which are steeped in rich military heritage:

★ *Integrity is the foundation*
★ *Excellence is the standard*
★ *Customer satisfaction is the focus*
★ *Its people are the most valued resource*
★ *Continuous quality improvement is the pathway*

This organization stands on the threshold of even greater challenges and responsibilities. It has been reorganized and reengineered to support the Army of the future. The CHPPM now has three direct support activities located in Fort Meade, Maryland; Fort McPherson, Georgia; and Fitzsimons Army Medical Center, Aurora, Colorado; to provide responsive regional health promotion and preventive medicine support across the U.S. There are also two CHPPM overseas commands in Landstuhl, Germany and Camp Zama, Japan who contribute to the success of CHPPM's increasing global mission. As CHPPM moves into the 21st Century, new programs relating to fitness, health promotion, wellness, and disease surveillance are being added. As always, CHPPM stands firm in its commitment to Army readiness. It is an organization proud of its fine history, yet equally excited about its challenging future.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	December 1997	Final

4. TITLE AND SUBTITLE
Fort Bliss 1989 Database: Demographics, Anthropometrics, Risk Factors, and Fitness Measures

5. FUNDING NUMBERS

6. AUTHOR(S)
John W. Gardner, Rose M. Popovich, Vitaly Ovchinnikov, Mat Tolman, Bruce. H. Jones

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
US Army Center for Health Promotion and Preventive Medicine
Directorate of Epidemiology and Disease Surveillance
Aberdeen Proving Ground, MD 21010

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
US Army Center for Health Promotion and Preventive Medicine
Directorate of Epidemiology and Disease Surveillance
Aberdeen Proving Ground, MD 21010

10. SPONSORING / MONITORING AGENCY REPORT NUMBER
29-HE-8093b-99

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT

Approved for Public Release, Distribution is Unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

This report describes a database collected on men attending basic combat training at Ft. Bliss, TX in 1989. Included is a description of the database and descriptive information on questionnaire responses, anthropometric measures, physical fitness scores and clinic visits for injuries.

14. SUBJECT TERMS

Anthropometry, Physical Fitness, Injuries, Smoking Tobacco, Physical Activity

15. NUMBER OF PAGES

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	

FORT BLISS 1989 DATABASE
TABLE OF CONTENTS

FORT BLISS 1989 DATABASE
TABLE OF CONTENTS

FORT BLISS 1989 DATABASE
TECHNICAL REPORT
REPORT SUMMARY

PURPOSE OF THIS REPORT

This technical report provides information and documentation about the data available in the various files of the Fort Bliss database. The purpose is not to present findings of the study, but instead to present data content in a descriptive format. The data contents of this report are current as of Summer 1997.

PURPOSE OF THE STUDY

Through the use of an intervention study design, the incidence of training-related injuries was documented in a study group at Fort Bliss, Texas in 1989. Data were collected from six companies of male Army recruits that participated in the intervention study, which involved abstaining from running for one week each during the 2nd or 3rd week of training, and also included a range of running mileage.

The focus of the study was on the occurrence of stress fractures, stress reactions, and other musculoskeletal injuries. The study was designed to determine whether a reduction in the incidence of these types of injuries would occur if running and marching were avoided at designated times during the course of the eight week basic training session. A decrease in injury incidence due to abstention from running or decreased running mileage was of particular interest when injury rates among the six companies were compared.

METHODS OF THE STUDY

Investigators met with recruits during the in-processing week. They explained to potential subjects (usually as a company group) the purpose of the study and obtained informed consent, administered a survey questionnaire and obtained anthropometric measurements. The study companies were followed by the investigators during the basic training session through the collection of company training logs, Army physical readiness test results, and reviewing medical charts from which clinic visit data for illnesses and injuries were abstracted.

Initial fitness of all subjects entering basic training and the potential impact on the risks of injury occurrence were determined from questionnaire responses, anthropometric measurements, physical fitness test results, and clinic visits for injury.

METHODS OF THE STUDY (continued)

The questionnaire covered history of physical activity and physical fitness, past injuries and illnesses, strength training and stretching, and exercise and sports involvement during the month prior to arrival for basic training. Anthropometric measurements included height, weight, neck and abdominal circumferences, and foot and flexibility measurements. Physical fitness test results were documented for recruits four times throughout the eight week basic training cycle, with initial testing completed during the first week of training. Performances on these Army physical readiness tests (APRT) were compared between the initial and final tests and were used to assist in the determination of physical fitness improvement among recruits.

Clinic visits were documented for all study recruits with periodic medical record abstraction for each visit. Time loss due to injury was also recorded, including the number of training days lost due to an overuse injury or a traumatic injury, and its relationship with the physical training program variations implemented among the six companies.

Study subjects also had an initial thermography exam performed as a baseline for diagnosis of leg and foot injuries. Thermogram and bone scan tests were used liberally for clinical indications of suspected injury as part of the routine medical evaluation when a recruit presented to the clinic.

FORT BLISS 1989 DATABASE
LIST OF CONTACT POINTS

John W. Gardner, MD, DrPH; COL, MC, FS, USA; Professor, Department of Preventive Medicine and Biometrics, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814-4799.

voice: 301) 295-3712 or (301) 319-6974 or [DSN 295-3712]

fax: (301) 295-1854 or (301) 319-6954

e-mail: jgardner@usuhs.mil

Rose M. Popovich, MPH; Senior Research Associate/Project Manager, Department of Preventive Medicine and Biometrics, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814-4799.

voice: (301) 295-6988 or [DSN 295-6988]

fax: (301) 319-6954

e-mail: rpopovich@usuhs.mil

Bruce H. Jones, MD, MPH; COL(retired), MC, USA; Motor Vehicle Team Leader, Division of Unintentional Injury Prevention, National Center for Injury Prevention and Control, Centers for Disease Control, 4770 Buford Highway, NE, (K63), Atlanta, GA 30341.

phone: (770) 488-4652

fax: (770) 488-1317

e-mail: bdj2@cdc.gov

Margarete Di Benedetto, MD; Professor, Department of Physical Medicine and Rehabilitation, University of Virginia, Health Science Center, Box 30-BRH, Charlottesville, VA 22901.

voice: (804) 924-2751

fax: (804) 982-0089

Thomas J. Scully, MD; Chief, Department of Surgery, El Paso Veterans Health Care Center, 5001 N. Piedras Street, El Paso, TX 79930-4211.

phone: (915) 564-6142

FORT BLISS 1989 DATABASE
APPENDICES DESCRIPTIONS

APPENDIX A **Protocol**

"Prevention of Stress Fractures Through Modification of Basic Combat Training Activities": Purpose is to compare the incidence and specifically, the reduction in incidence of stress-related injuries through variations in the basic physical training program for Army recruits. Variations include reduction in total running mileage and avoidance of running and marching during the second or third week of training.

APPENDIX B **Questionnaire**

Survey questions included assessment of physical fitness and past participation in physical activities, past injuries and illnesses, strength training and stretching, and exercise and sports involvement during the month prior to arrival for basic training.

APPENDIX C **Data Collection/Extraction Forms**

Included are data collection forms for anthropometric measurements and daily training logs used by each company for listing training activities, including duration and distance for running and/or marching. Data extraction forms used for medical record review of injuries and illnesses are also included.

APPENDIX D **Codebooks**

Codebooks are presented for six files maintained in the database, to include the main file, questionnaire file, anthropometric file, Army physical readiness test (APRT) file, injury and illness files. Codebooks include field names, descriptions, missing values, calculations, formats and frequencies/means of responses. Included in this appendix are additional coding notations utilized to maintain consistent coding of injury and illness variables.

APPENDIX E **Tables and Histograms for Demographics, Anthropometrics, Risk Factors, and Fitness Measures**

Descriptive information is presented in tabular form to include statistical data along with corresponding histograms or bar charts. Descriptive information includes demographics, anthropometrics, risk factors, and fitness measures presented for the 1357 male recruits participating in the study.

FORT BLISS 1989 DATABASE

APPENDIX A
PROTOCOL

PROGRAMMED RESEARCH AND RELATED ACTIVITIES

Section A • ADMINISTRATION

STUDY TITLE: Prevention of stress fractures through modification of basic combat training activities

LAB IDENTIFICATION NO.: PH-3-89

TYPE OF ACTIVITY OR RESEARCH:

[xx] Human (This research [ ] does [ ] does not fall within limitations of an approved Type Protocol
[ ] Animal
[ ] Other

[ ] Laboratory
[xx] Field

Estimated Starting Date:	Estimated Completion Date:	Review Date:
1 June 1989	30 December 1990	

PERSONNEL: (List all personnel, with responsible investigator first. Estimate % time of each between start and completion dates.)

COL Thomas J. Scully, MC WBAMC - Principal Investigator
MAJ Bruce H. Jones, MC USARIEM - Responsible Investigator
COL Roy W. Tate, Fort Bliss
Janice E. Morales, WBAMC

SPECIAL SERVICES AND FACILITIES REQUIREMENTS: (Check pertinent blocks)

[ ] Animal (See USARIEM Memo 70-3)
[ ] Additional personnel including work period adjustments
[ ] Use of Radioisotopes
[ ] Contracts for services
[ ] Statistics
[ ] Computer (ADP Office)
[ ] Test Subjects
[ ] Volunteer statement
[ ] Medical Coverage
[ ] TDY Costs
[ ] Climatic Chambers Building
[ ] Chambers, ARIEM Building (Specify _____)

REMARKS: This protocol represents a collaborative effort between the Clinical Investigation Service, WBAMC and the Exercise Physiology Division, USARIEM. Funding is being provided by HQ-MRDC

NOTE: Responsible investigator's signature below indicates that preliminary arrangements have been made and administrative and scientific lead times have been considered. The responsible investigator must confirm action on the above.

BRUCE H. JONES, MAJ, MC
Submitted by (Responsible Investigator)
Date: 23 MAR 1989

JAMES A. VOGEL, Ph.D., Dir, EX PH Div.
Recommend Approval/Disapproval (Lab Dir)
Date: 24 Mar 89

Recommend Approval/Disapproval: (Work Unit Coordinator)
Date:

Recommend Approval/Disapproval: (Assistant to CDR/DIR)
Date:

WU: 134 ; Physical Fitness Training and Medical Problems Related to Training
Work Unit Title & No.: 879/BF

VIOLET M. TRAINER
Fiscal Approval/Disapproval: (Budget Officer)
Date: 24 Mar 89

Tech Proj: (MEM, RBS, ILIR) 3E162787A879

Cost Code: 9450083303134

DAVID D. SCHNAKENBERG, COL, MS, COMMANDING
Approved/Disapproved: (CDR/DIR)
Date:

Approval from higher headquarters required? [ ] No [ ] Yes (If yes, must await final approval from USAMR&DC)

STSNL Form 745
1 Mar 74 PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

(USARIEM Memo 70-1)

SGRD-UE-PH

24 March 1989

MEMORANDUM FOR Commander

SUBJECT: Protocol Review

The accompanying protocol entitled"Prevention of stress fractures through modification of basic combat training activities" has been reviewed both by outside consultants as well as other members of this Division. I certify that it meets acceptable standards of experimental design.

Encl

JAMES A. VOGEL, PH.D.
Director
Exercise Physiology Division

WILLIAM BEAUMONT ARMY MEDICAL CENTER
EL PASO, TEXAS 79920-5001

APPLICATION FOR CLINICAL STUDY

1. PROJECT TITLE: Prevention of Stress Fractures Through Modification of Basic Combat Training Physical Training Activities Based on Biodynamics.

2. PERSONNEL INVOLVED:

a. PRINCIPAL INVESTIGATOR: COL Thomas J. Scully, MC, Chief, Orthopaedic Service, WBAMC

COL Roy W. Tate
Commander, USA Training Ctr
Fort Bliss, TX

b. CO-INVESTIGATORS: MAJ Bruce H. Jones, MC
Medical Research Officer
USARIEM

Janice E. Morales
RN/BioMedical Engineer

c. CONSULTANTS: MAJ David Cowan
Div. of Preventive Medicine

Dr. John M. Harris
Chief of Orthopaedics
Boston VA Medical Center

3. LOCATION OF STUDY: USATC Fort Bliss, TX, Orthopaedic and Nuclear Medicine Clinics, WBAMC

4. TIME REQUIRED TO COMPLETE: 24 months.

5. PURPOSE: To compare the incidence and distribution, over the course of basic training, of the occurrence of stress fractures, stress reactions, and other musculoskeletal injuries, among Army Basic Combat Trainees participating in one of four variations in physical training. The variations to be studies are (1) progressive training, (2) cyclic training with avoidance of running and jumping during the second week, (3) cyclic training with avoidance of running and jumping during the third week and (4) reduced total running mileage.

Specifically, the purpose of this study is to determine whether avoidance of running and marching in the second or third week of training will reduce the incidence of stress fractures, stress reactions of bone and musculoskeletal injuries in general, when compared to progressive training. If there is a decrease in

injury we wish to determine if the decrease in injury is specific to the response to cyclic training or rather due to the decreased running miles (the mechanical response - sited in the Israeli Studies) ([1,2,3,4]).

We will address the deficiencies of previous studies by :

a. Thoroughly characterizing the population of trainees to be studied, including variables previously identified as important factors associated with increased risk for stress fracture and other musculoskeletal training injuries.

b. Documenting the initial fitness of all trainees.

c. Thorough documentation of the training program to which the trainee will be exposed.

d. Complete documentation of all injuries, including stress fracture.

e. Application of a clear operational definition of stress fractures and stress reactions based on a grading system supported by the most current literature.

6. INTRODUCTION:

a. Medical and Military Application. 4.88% of all Army Basic Trainees seek medical attention for treatment of stress fractures[5]. The cost to TRADOC because of this training related injury is more than 9,251,403.2 dollars per year (Appendix 1). Additional cost estimated at 2,136,027.1 dollars per year are expended by health Services Command for the diagnosis and treatment of trainees with stress fractures. Costs which have not yet been determined are also incurred by DOD and the VA for disability payment to the trainees who are separated because of temporary or permanent impairments resulting from stress fractures. More important than these monetary considerations, however, are the immeasurable cost related to impairment of efficiency of training centers and medical facilities, not to mention the pain and impairment sustained by the injured trainee.

b. Background: Stress fractures have been a major concern of the military service since the 19th century[6], and more recently for civilian athletes and the sports medicine community. Although numerous studies of stress fractures have been published, little effort has been devoted to the development of methods to prevent this injury. Several studies of stress fractures have specifically examined the problem in basic trainees: (Brudvig 1983[7], Cowan 1988[8], Gardner 1988[9], Giladi 1985[2], Jones, Army Technical Report 1988[10], Kowal 1980[11], Milgrom 1985[3], Protzmann 1977[12], Scully 1982[5]).

Most of these studies have demonstrated methodological shortcomings and/or problems with the operational definition of stress fractures (Jones, Harris et al, in Press).

Laboratory studies ([13, 14, 15, 16, 17, 18, 19]) suggest that the material fatigue life of cortical bone is in the range of 10,000 to 100,000 cycles. Evidence from this purely mechanical study suggest that the number of cycles of strain is important to the fatigue life of bone. Assuming the average number of miles running and walking in a 12 week OSUT training cycle is 200 miles (personal communication Bruce Jones) which approximates 140,000 foot strikes (loading cycles) in that training period, it is apparent that if stress fractures were the result of purely the material characteristics of cortical bone, essentially all recruits would have suffered at least one stress fracture during training, Clearly this is not the case. There must be factors other than those of a purely mechanical nature involved in the etiology of stress fracture since 95% of recruits do not sustain fractures or any failure of their skeletal system during training.

The classic studies of Julius Wolff, originally published in 1892, firmly established the "Law of Bone Remodeling" which states that bone undergoes predictable changes in shape and internal archetecture when it is subjected to mechanical stresses[20]. Subsequent investigators have examined the mechanisms by which these changes are affected. Studies in military trainees[21,22] and in experimental animals[23,24] have demonstrated that when living bone is subjected to repeated mechanical stress it undergoes sequential histologic changes which initially remove "stressed" bone via resorption by osteoclasts and subsequently adds reparative new bone through the action of osteoblasts.

The osteoclastic phase of bone remodeling results in the production of Howship's Lacunae which are small pits or cavities in the bone. These have the unfortunate mechanical consequence of rendering the bone highly susceptible to stress fractures since they act as stress concentrators or crack propagators. Studies in experimental animals have shown that there is a 90 to 98% loss of fatigue life (number of cycles of mechanical loading during the osteoclastic phase of bone remodeling[25]. This period of increased susceptibility to fracture is brief. In rats it begins at 5 days after application of repetitive mechanical stress and ends 7 days later when osteoblastic deposition of new bone has advanced sufficiently to restore the fatigue life to normal.

Extrapolation of data obtained from laboratory rats would suggest there is a period during the Basic Training Cycle when the lower limb bones of the military trainee are highly susceptible to stress fractures. Prohibition of activities which apply cyclic loads to the lower limbs, such as walking and marching during this period of increased risk would be expected to decrease the incidence of stress fractures.

This period of risk for basic trainees cannot be established by the techniques used in experimental laboratory animals, since these studies require destructive testing of limb bones. However, the period of risk can be identified by careful cohort studies of the incidence of stress related injuries in trainees undergoing training which has been modified by incorporation of a phase of training during which activities which produce high mechanical stress are prohibited.

c. Status: The existence of a "period of risk" had not been documented prior to the studies of Scully et al[26]. However, it has been suspected. Pilot studies conducted at Fort Knox, Kentucky and Fort Bliss, Texas, have demonstrated a substantial reduction in the incidence of stress fractures when trainees are prohibited from running, jumping and marching during the third week of basic training[5].

Two technical reports published June 1988 and November 1988, respectively, by MAJ Jones extensively studied training injuries. The hypothesis generated by these studies, as well as Scully's work, indicate the need for a more refined test on a larger population to confirm conclusion arrived at by both Scully and Jones during independent research.

d. Bibliography:

(1) Chisin R, Milgrom C, Giladi M, Stein M, Margulies J, Kashtan 11: Clinical significance of nonfocal scintigraphic findings in suspected tibial stress fractures. Clin Orthop Related Res 220:200-205, 1987.

(2) Giladi M, Ahronson Z, Stein M, Danon YL, Milgrom.C: Unusual distirubtion and onset of stress fractures in soldiers. Clin Orthop Related Res 192:142-146, 1985.

(3) Milgrom C, Giladi M, Chisin R, Dizian R: The long term follow-up of soldiers with stress fractures. Am J Sports Med 13:398-400, 1985.

(4) Milgrom C, Giladi M, Stein H, et al: Stress fractures in military recruits: a prospective study showing an unusually high incidence. J Bone Joint Surg 67-B:1985, 1985.

(5) Scully, TJ, Besterman G: Stress fracture - a preventable training injury. Milit Med 147:285-287, 1982.

(6) Breithaupt: Zur Pathologic des menschlichen fusses. Medicishche Zeitung Berlin 1855; 36:169-171, and 37:175-177.

(7) Brudvig TJS, Gudger TD, Obermeyer L: Stress fractures in 295 trainees: a one-year study of incidence as related to age, sex, and race. Milit Med 148:666-667, 1983.

(8) Cowan D, Jones B, Tomlinson P, Robinson J, Dolly D, Frykman P and Reynolds K: The epidemiology of physical training injuries in U.S. Army Infantry trainees: methodology, population, and risk factors. Technical Report No T4-89 U.S. Army Research Institute of Environmental Medicine, Natick, Massachusetts, November 1988.

(9) Gardner I, Dziados JF, Jones BII, et al: Prevention of lower extremity stress fractures: a controlled trial of a shock abosrbent insole. Am J Pub Health 78:1568-1569 in press.

(10) Jones B, Manikowski R, Harris J, Dziados J, Norton S, Ewart T, Vogel JA: Incidence of and risk factors for injury and illness among male and female Army basic trainees. Technical Report No T19-88. U.S. Army Research Institute of Environmental Medicine, Natick, Massachusetts, June 1988.

(11) Kowal DM: Nature and causes of injuries in women resulting from an endurance training program. Am J Sports Med 8:265-268, 1980.

(12) Protzman RR, Griffis CC: Comparative stress fracture incidence in males and females in an equal training environment. Athletic Training 12:126-130, 1977.

(13) Burr DB, Mortin RB, Schaffner MB, Radin EL: Bone remodeling in response to in vivo fatigue micro damage. J Biomechanics 1B:189-200, 1985.

(14) Carter DR, Spengler DM, Frankel VH: Bone fatigue in uniaxial loading at physiologic strain rate. I.R.C.S. J Med Sci 5:592, 1977.

(15) Carter DR, Hayes WC: Fatigue life of compact bone: effects of stress amplitude, temperature and density. J Biomechanics 9:27-34, 1976.

(16) Evans FG: The fatigue strength of human compact bone. Anat Rec 112:327, 1952.

(17) Evans FG, Lebow M: Strength of human compact bone under repetitive loading. J Appl Physiol 10:127-130, 1957.

(18) Keller TS, Lovin JD, Spengler DM, Carter DR: Fatigue of immature baboon cortical bone. J Biomechanics 18:297-304, 1985.

(19) Lafferty JF: Analytic model of fatigue characteristics of bone. Aviat Space Environ Med 49:170-174, 1978.

(20) Wolff, Julius; The Law of Bone Remodeling (Translated by P. Maguet and R. Furlong), Springer/Verlag, 1986.

(21) Johnson, L.C.; Morphologic Analysis in Pathology. In: Frost, H.M., ed, Bone Biodynamics, Little, Brown and Company, Boston, 1964, pp. 587-595.

(22) Bogumill, G.P. and Schwamm, H.A.: Orthopaedic Pathology, A Synopsis with Clinical and Radiographic Correlation. W.B. Saunders Co., 1984, pp. 87-93.

(23) Li G, Zhang S., Chen G, et al: Radiographic and Histologic Analyses of Stress Fractures in Rabbit Tibias. American Journal of Sports Medicine 13: 1985, 285-294.

(24) Rubin, C.T., Harris, J., Jones, B, Ernst, H. and Lanyon, L.E. (1984) Stress Fractures: The Remodeling Response to Excessive Repetitive Loading. Trans. 30 Ortho. Res. Soc. 9:303.

(25) Scully, T.J., Reimann, B.E., McNamee, G.; Changes in Bone Micromorphology and Fatigue Fracture Resistance Resulting from Repeated Physical Stress. In: Proceeding of the Third International Jerusulem Symposium of Sports Injuries, Fruend Publishing Company, Tel Aviv/London, in press.

7. STUDY DESIGN: The study will be conducted at USATC, Fort Bliss, Texas and WBAMC. 1200 basic combat trainees, 12 companies (80-100 per company) with 3 companies per study group. (Progressive, rest week 2, rest week 3, decreased training mileage.) Treatment groups will be assigned by random lot drawing at the beginning of each basic training cycle. Trainees' medical history will be followed through the completion of their individual AIT assignments.

a. Methods: Each company will be studied in four phases.

(1) Phase 1: Preliminary measurements will be documented on each trainee from review of their physical entrance examination and their personal response to the enclosed questionnaires (see Appendix II and III). Age, race, height, weight, flexibility of their feet, history of athletic activity, during the one month before start of basic training, history of past injury to lower limbs, and age of athletic shoes used prior to basic training will be obtained.

(2) Phase 2:

(a) Initial, intermediate, and final physical fitness test scores will be recorded on each trainee.

(b) The DI or Company Commander will keep a daily training check list log (Appendix IV) to be picked up twice weekly at random times to assure logs are truly kept on a daily basis.

(c) All injuries and illnesses will be documented by screening of all medical records. All cases of lower limb pain

will be treated according to the Stress Fracture Algorhythm (Appendix V).

(d) All discharges (medical, EPTS, ELS) and recycles will be documented.

(3) Phase 3: Advanced Individual Training - 2nd follow-up period.

(a) Record initial and final PT test performance.

(b) Have Commanders document unit level physical training in AIT with check list log (same as Appendix IV).

(c) Follow medical records of subjects after BT through end of AIT for injuries and illness.

(d) Document administrative outcomes.

(4) Phase 4: Analysis.

(a) Univariat - Company vs. company chi square test of: fitness within each company, contrast injury experience of different quartiles of performance using partitioned chi squares.

(b) Multivariate analysis

(1-1) MH-CHI SQ stratified on age, race, and flexibility of foot, or same variables in a logistic regression model.

(2-2) Survival analysis conditional on age, race flexibility.

(c) Debriefing Post HQ, TRADOC HQ, MRDC HQ.

b. Impact: This study will be conducted through the cooperative efforts and use currently available resources of USATC, Fort Bliss, and the Orthopaedic Service, Nuclear Medicine Service and Department of Clinical Investigation of WBAMC. This plan has been fully coordinated with all involved activities. A concerted effort will be made to minimize disruption of routine training center activities and of the processing and training of individual trainees.

8. PLAN:

a. Selection of Subjects:

(1) Number of subjects: 12 Basic Training Companies (approximately 1200 trainees). Volunteers will be sought; experience from June 1988 and November 1988 technical studies suggest a 90-100% volunteer rate.

b. Sex: Male

c. Diagnostic criteria for entry into study: healthy male individual entering basic training.

d. Evaluation prior to entry: A briefing for this study will be conducted at the end of fill week. Trainees will sign an informed consent (Appendix VIII) for participation in this study. Complete form in Appendix III, and Complete Pre-screening Exam in Appendix II.

e. Exclusion Criteria: None

f. Subject Identification: SSN

g. Source of Subjects: 67th AG Battalion, Fort Bliss, TX

h. Subject Assignment: Training Company Commander will draw lots at the beginning of training cycle to determine which of the following four training standards will be used: progressive, rest week 2, rest week 3, decrease number of miles.

i. Risk to Subjects: No anticipated risk other than the generalized risk trainees are exposed to in basic training. There is a minor risk associated with pre-screening. For those trainees presenting with limb pain the diagnostic protocol for bone pain (Appendix V) will be followed. Bone scans will be done only on individuals where clinically indicated according to this protocol. The risks of bone scans are extremely low and are necessary to document the location and severity of the stress reactions so that appropriate treatment may be prescribed.

j. Precautions to Eliminate Risk: Not applicable.

k. Medical or Nursing Care: All trainees will receive appropriate medical treatment for any injury or illness incurred during basic training by reporting to Sick Call at Fort Bliss or referred to WBAMC clinics.

l. Project Medication(s) or Device(s): None

9. DATA ANALYSIS: Will be done on 2 levels.

a. Company level "crude" analysis: For each company the following data will be recorded and evaluated:

(1) Risk of injury/stress fx/stress reaction.

(2) Risk of illness, URI/other.

(3) Training days/trainee/day

(4) Entry level fitness PT/survey (average)

(5) Entry level of fitness BCT/AIT change fitness

(6) Entry level activity questionnaire (average)

(7) Training logs/company

(8) Age, race, occupational background (work experience)

(9) Graduation/discharge/recycle

b. Stratified multivariate Analysis

(1) MH-CHI SQ stratified on age, race, flexibility, activity for each company.

(2) Stratified (merged data basis)

i - Control	X2 vs 2, 3, 4
ii - Rest 2nd week	X2 vs 3, 4
iii - Rest 3rd week	X2 vs 4
iv - Training 3 days/week (v mileage)	

(3) 5-6 Months minimum will be required for a full-time biostatistician/epidemiologist for analysis of the above collected data.

10. DEPARTURE FROM PROTOCOL FOR INDIVIDUAL TRAINEES: Will be strongly discouraged. Data on trainees hospitalized for illness other than stress related injury or who fail to complete training for administrative or academic reasons will be evaluated separately.

11. MODIFICATION OF PROTOCOL: None are anticipated.

12. USE OF INFORMATION AND PUBLICATION ARISING FROM STUDY: The final report of this study will be initially sent to the Commanding General of TRADOC, for his analysis and review. With his concurrence, this report will then be submitted to Military Medicine for publication. Post HQ, MRDC HQ will also be informed of the results of this study.

13. FUNDING IMPLICATIONS:

Salary for Biomedical Engineer (Project Coordinator)		$50,000/annum
Biostatistician/epidemiologist		$40,000/annum
Project Secretary (GS-5)		$20,000/annum
E3/E5	$26,880--$31,137	5376 manhours
Equipment:		
2 dedicated PC's with 40 MEG Math co processor		$ 8,000.00 each
Software		$ 4,000.00 each
Word Processing		$ 300.00 each

Travel:

Present findings at HQ TRADOC	$1,000/annum
Present finding at professional mtg	$1,000/annum

VOLUNTEER AGREEMENT AFFIDAVIT

For use of this form, see AR 70-25; the proponent agency is OTSG

PRIVACY ACT OF 1974

Authority: 10 USC 3012, 44 USC 3101, and 10 USC 1071-1087.

Principle Purpose: To document voluntary participation in the Clinical Investigation and Research Program. SSN and home address will be used for identification and locating purposes.

Routine Uses: The SSN and home address will be used for identification and locating purposes. Information derived from the study will be used to document the study, implementation of medical programs, adjudication of claims, and for the mandatory reporting of medical conditions as required by law. Information may be furnished to Federal, State and local agencies.

Disclosure: The furnishing of your SSN and home address is mandatory and necessary to provide identification and to contact you if future information indicates that your health may be adversely affected. Failure to provide the information may preclude your voluntary participation in this investigational study.

PART A(1) - VOLUNTEER AFFIDAVIT

Volunteer Subjects in Approved Department of the Army Research Studies

Volunteers under the provisions of AR 40-38 and AR 70-25 are authorized all necessary medical care for injury or disease which is the proximate result of their participation in such studies.

I, _____, SSN _____.

having full capacity to consent and having attained my _____ birthday, do hereby volunteer/give consent as legal

representative for _____ to participate in _____

Prevention of Stress Fractures Through Modification of Basic Combat Training

(Research Study)

Physical Training Activities Based on Biodynamics (Part I)

under the direction of Colonel Thomas J. Scully, MC

conducted at William Beaumont Army Medical Center

(Name of Institution)

The implications of my voluntary participation/consent as legal representative, duration and purpose of the research study; the methods and means by which it is to be conducted; and the inconveniences and hazards that may reasonably be expected have been explained to me by

Colonel Scully

I have been given an opportunity to ask questions concerning this investigational study. Any such questions were answered to my full and complete satisfaction. Should any further questions arise concerning my rights/the rights of the person I represent on study-related injury, I may contact

Staff Judge Advocate

at William Beaumont Army Medical Center, El Paso, TX 915= 569-2236/2280

(Name, Address and Phone Number of Hospital Research Area Contact)

I understand that I may at any time during the course of the study revoke my consent and withdraw/have the person I represent withdrawn from the study without further penalty or loss of benefits; however, if the person I represent may be required (military volunteer) or requested (civilian volunteer) to undergo certain examination if, in the opinion of the attending physician, such examinations are necessary for my/the person I represent's health and well-being. My/the person I represent's refusal to participate will involve no penalty or loss of benefits to which I am/the person I represent is otherwise entitled.

_____

PART A (2) - ASSENT VOLUNTEER AFFIDAVIT (MINOR CHILD)

I, _____, SSN _____ having full

capacity to consent and having attained my _____ birthday, do hereby volunteer for _____

_____ to participate in _____

_____

(Research Study)

_____

under the direction of _____

conducted at _____

(Name of Institution)

(Continue on Reverse)

PART A(2) - ASSENT VOLUNTEER AFFIDAVIT (MINOR CHILD) (Cont'd)

The implications of my voluntary participation; the nature, duration and purpose of the research study; the methods and means by which it is to be conducted; and the inconveniences and hazards that may reasonably be expected have been explained to me by

_____

I have been given an opportunity to ask questions concerning this investigational study. Any such questions were answered to my full and complete satisfaction. Should any further questions arise concerning my rights I may contact

_____

at _____

(Name, Address, and Phone Number of Hospital Graduate Area Contact)

I understand that I may at any time during the course of this study revoke my assent and withdraw from the study without further penalty or loss of benefits; however, I may be requested to undergo certain examination if, in the opinion of the attending physician, such examinations are necessary for my health and well-being. My refusal to participate will involve no penalty or loss of benefits to which I am otherwise entitled.

_____

PART B - TO BE COMPLETED BY INVESTIGATOR

INSTRUCTIONS FOR ELEMENTS OF INFORMED CONSENT. (Provide a detailed explanation in accordance with Appendix E, AR 40-38 or AR 70-25.)

You are being asked to volunteer to participate in a study to determine the relationship between physical fitness, and training and musculoskeletal (pertaining to the muscles and skeleton) injuries during initial Army training. Stress fractures in particular will be recorded and followed. Also, some of the companies training trainees like yourselves will be conducting training that is modified with the intention of preventing stress fractures. The primary modification will be less running and marching.

The first part of this study will be conducted before you go to your unit to begin training. For this portion of the study, you will be asked to fill out a questionnaire. The questionnaire will ask about your past participation in sports, recreation, and physical training activities. Also, you will be asked about previous injuries that have significantly affected your ability to perform your normal daily activities.

During this first part of the study, several measurements will be made of your body, such as height and weight, and your ability to perform simple tasks like touching your toes and lifting an object and measuring of your feet. The questionnaire and the measurements will take between 1 and 2 hours to complete.

I do ☐ do not ☐ (check one & initial) consent to the inclusion of this form in my outpatient medical treatment record.

SIGNATURE OF VOLUNTEER	DATE	SIGNATURE OF LEGAL GUARDIAN (If volunteer is a minor)
PERMANENT ADDRESS OF VOLUNTEER	TYPED NAME OF WITNESS	
	SIGNATURE OF WITNESS	DATE

REVERSE OF DA FORM 5303-R, MAY 88 -

No further measurements will be made on you after the first part of the study. During your One Station Unit Training or Basic Combat Training we will record your performance on all Army Physical Fitness tests for comparison with your listing of fitness on the questionnaire. Also, we will record all visits that you make for medical attention for injuries or illness during this initial training period in the Army. You may also be asked to keep a diary of your training.

Number of Trainees to be studied: 1200.

Benefits: The results of this study are unlikely to be of direct benefit to you. However, they should be of benefit to the Army in determining what aspects of physical training contribute most to the likelihood of musculoskeletal injuries, and also those which contribute most to the development of fitness.

Risks: No significant risks associated with participating in this study are expected.

DURATION OF STUDY: 24 months

EXPECTED DURATION OF SUBJECTS PARTICIPATION: 1-2 hours

ASSURANCE OF CONFIDENTIALITY: During the course of your inprocessing here at Ft. Bliss and during this briefing you have been provided a copy of the Privacy Act Statement (DD Form 2005) which has made you aware of the safeguards available because of the privacy Act of 1974. You have been given the opportunity to review the DD Form 2005, ask questions, and retain a personal copy. You have been made aware that the information gained because of your participation in this study may be publicized in the medical literature, discussed as an educational model, and used generally in the furtherance of medical science. Information gained from this study may be used as part of a scientific publication in medical or professional journals, but you will in no way be personally identified. The records, however, may be reviewed by personnel of Food and Drug Administration.

SIGNIFICANT NEW FINDINGS: Any significant new findings developed during the course of this study will be available to you upon request.

FOR INFORMATION REGARDING THE RIGHTS OF STUDY SUBJECTS, CONTACT THE STAFF JUDGE ADVOCATE, WILLIAM BEAUMONT ARMY MEDICAL CENTER (569-2236/2280).

PARTICIPATION IN THIS STUDY IS VOLUNTARY. REFUSAL TO PARTICIPATE WILL INVOLVE NO PENALTY OR LOSS OF BENEFITS TO WHICH YOU ARE OTHERWISE ENTITLED. YOU MAY DISCONTINUE PARTICIPATION AT ANY TIME WITHOUT PENALTY OR LOSS OF YOUR ENTITLED BENEFITS.

You will also be provided a copy of this volunteer agreement for your files at this time.

SIGNATURE OF VOLUNTEER	DATE SIGNED	SIGNATURE OF LEGAL GUARDIAN (If volunteer is a minor)	
PERMANENT ADDRESS OF VOLUNTEER	TYPED OR PRINTED NAME AND SIGNATURE OF WITNESS		DATE SIGNED

Reverse of DA FORM 5303-R.

14. DATE PREPARED: 8 February 1989

Principal Investigator — Date: 9 Feb 89

Chief, Department of Surgery — Date: 9 Feb 89

Chief, Department of Clinical Investigaiton — Date: 9 Feb 89

STRESS INOCULANTS - COSTS OF:

TOTAL COSTS - U.S. ARMY FY87S
(SUMMARY)

RECEPTION STATION	7,647,595.2	
REPEAT TRAINING	1,603,808.0	
TRADOC TOTAL	9,251,403.2	
HSC TOTAL	2,136,027.1	
TOTAL U.S. ARMY	$11,387,430.3	FY87S

HSC COSTS - FY87$

OUTPATIENT MEDICAL COSTS/SOLDIER

2 - TMC visits ($25.00@)	=	50.00 - FY86$
3 - Ortho visits ($66.67@)	=	200.01 - FY86$
2 - Area studies XR	=	16.52 - FY86$
1 - Bone scan	=	100.00 - FY86$
		$366.53 x 1.03147 = $378.06 FY87$

TOTAL OUTPATIENT MEDICAL COSTS

	#STRESS INJURIES				
FT BENNING	464.7	x	378.06	=	175,684.48
FT BLISS	99.6	x	378.06	=	37,654.78
FT DIX	417.9	x	378.06	=	157,991.27
FT JACKSON	446.6	x	378.06	=	168,841.60
FT KNOX	351.1	x	378.06	=	132,736.87
FT LEONARDWOOD	404.4	x	378.06	=	152,887.46
FT McCLELLAN	249.6	x	378.06	=	94,363.77
FT SILL	250.7	x	378.06	=	94,779.64
TOTALS	2,684.6				$1,014,939.87

INPATIENT MEDICAL COSTS/SOLDIER

1 Hospital Day (WBAMC) = $333.28 FY87$

x Hospital Stay = 11 days = $3666.08

TOTAL INPATIENT MEDICAL COSTS

FT BENNING	52.9	x	3666.08	=	193935.63
FT BLISS	11.3	x	3666.08	=	41426.70
FT DIX	47.6	x	3666.08	=	174505.41
FT JACKSON	50.9	x	3666.08	=	186603.47
FT KNOX	40.0	x	3666.08	=	146643.20
FT LEONARDWOOD	46.1	x	3666.08	=	169006.29
FT McCLELLAN	28.4	x	3666.08	=	104116.67
FT SILL	28.6	x	3666.08	=	104849.89
	305.8				$1,121,087.26

HSC COST SUMMARY

TOTAL OUTPATIENT MED COSTS	$1,014,939.87
TOTAL INPATIENT MED COSTS	1,121,087.26
TOTAL	$2,136,027.13

RECYCLE REPEAT TRAINING COST

	TPCS WK	TCS WK	TCS/WK	#TRAINED (EGRAD)	TCS/WK EGRAD	TRAIN WEEKS	REPEAT TNG COSTS EGRAD	#RECYCLES	RECYCLE REPEAT TNG COST
FT BLISS	2898291	5011981	7909272	6338	1247.9	3	3743.7	20.2	75622.5
FT KNOX	8219427	15473615	23693042	22343	1060.4	3	3181.3	71.1	226188.3
FT BENNING	7811266	21088250	28809516	29575	974.1	3	2922.4	94.1	274993.3
FT LEONARD WOOD	7169281	16231026	23400307	25738	909.2	3	2727.5	81.9	223383.9
FT JACKSON	10231920	18239819	28471739	28422	1001.8	3	3005.3	90.4	271674.6
FT DIX	7260625	19357422	26618047	26599	1000.7	3	3002.1	84.6	253981.7
FT MCCLELLAN	4046761	11914015	15960776	15888	1004.6	3	3013.7	50.6	152495.3
FT SILL	4700912	8435291	13136203	15956	823.3	3	2469.8	50.8	125467.4
TOTALS				170859				543.7	1603808

RECEPTION STATION COSTS

	PC/RECEPTEE	#RECEPTEES	TTC$/REC STA	#TRAINEE HEAD	TC$/HEAD	W/S	TC$/HEAD REC STA STAY	REC STA STAY DAY	TC$/HEAD DAY REC STA	DAYS RECEP PERIOD	TC$ HEAD PER STA	#RECYCLES	TC$ PER STA CYCLE
FT BLISS	581	5294	3075814	6118	485.3	676	1161.3	1	887.1	42	16258.2	20.2	328415.6
FT KNOX	400	21298	8519200	23143	381.3	660	1041.3	1	347.1	42	14578.1	71.1	1036501.7
FT BENNING	(NO TRADOC DATA)			29575			*910.0	1	303.3	42	12740.0	94.1	1198814.0
FT LEONARDWOOD	(NO TRADOC DATA)			25718			*910.0	1	303.3	42	12740.0	81.9	1043806.0
FT JACKSON	193	77252	14909616	28432	524.6	673	1197.6	1	399.2	42	16766.1	90.4	1515658.1
FT DIX	247	34498	8521006	26599	320.4	591	911.4	1	303.8	42	12758.9	87.6	1117401.7
FT MCCLELLAN	374	17622	5709528	15080	959.4	552	911.4	1	303.8	42	12759.1	50.6	645608.2
FT SILL	523	20196	10667108	19056	668.5	456	1124.5	1	374.8	42	15741.5	50.8	799767.7
TOTALS				170859									7647595.2

*WEIGHTED AVERAGE TOTAL COSTS RECEPTION STATION (TRADOC)

BT/OSUT FIXED TRAINING COSTS - FT KNOX

BASIC TNG SITE COURSES	#TRAINED*	FCS/GRAD*	TFCS/MOS	COURSE LENGTH*	MOS TFC/WK	BASIC TNG *WEEKS	MOS TFC BT+8wks
750-BT	10066	2609	26262194	8	3282744.25	8	
751-BT-ROTC	3146	1951	6332946	6	1055491.00	8	
19D10 M113 CAV SCOUT	2417	5643	13639131	13	1049163.92	8	
19D10 M113 CAV SCOUT-ST(PH1)	184	2630	483920	8	60490.00	8	
19D10 M113 CAV SCOUT-ST(PH2)	101	1959	197859	6	32976.50	8	
19D10 M3 BRADLEY/CFV CAV	411	5109	2104908	14	150350.57	8	
19D10 M3 BRADLEY/CFV CAV(ST)	14	2928	40992	8	5124.00	8	
19E10 M60A1 ARMOR CM	2091	5494	11487954	14	820568.14	8	
19E10 M60A1 ARMOR CM-ST (PH1)	310	2626	814060	8	101757.50	8	
19E10 M60A1 ARMOR CM-ST(PH2)	195	1959	382005	6	63667.50	8	
19E10 M60A3 ARMOR CM	2107	5497	11582179	14	827298.50	8	
19E10 M60A3 ARMOR CM-ST(PH1)	118	4797	566046	8	70755.75	8	
19E10 M60A3 ARMOR CM-ST(PH2)	113	2199	248487	6	41414.50	8	
19K10 M1 ABRAMS ARMOR CM	960	6631	6365760	14	454697.14	8	
19K10 M1 ABRAMS ARMOR CM-ST(PH1)	7	2603	18221	8	2277.63	8	
19K10 M1 ABRAMS ARMOR CM-ST(PH2)	2	1951	3902	6	650.33	8	
TOTALS	22343				9019427.23		

BT/OSUT VARIABLE TRAINING COSTS - FT KNOX

USATC ING SITE COURSES	#TRAINED*	FCS/GRAD*	TFCS/MOS	COURSE LENGTH*	MOS TFC/WK	BASIC ING #WEEKS	MOS TFC BY [illegible]
750-BT	10066	5612	56490392	8	7061299	8	
751-BT-ROTC	3246	5612	18216552	8	2277069	8	
19D10 M113 CAV SCOUT	2417	5612	13564204	8	1695526	8	
19D10 M113 CAV SCOUT-ST(PH1)	184	5612	1032608	8	129076	8	
19D10 M113 CAV SCOUT-ST(PH2)	101	5612	566812	8	70852	8	
19D10 M2 BRADLEY CFV CAV	412	5612	2311144	8	289018	8	
19D10 M3 BRADLEY CFV CAV(ST)	14	5612	78568	8	9821	8	
19E10 M60A1 ARMOR CM	2091	5612	11734692	8	1466837	8	
19E10 M60A1 ARMOR CM-ST (PH1)	310	5612	1739720	8	217465	8	
19E10 M60A1 ARMOR CM-ST(PH2)	195	5612	1094340	8	136793	8	
19E10 M60A3 ARMOR CM	2107	5612	11824484	8	1478061	8	
19E10 M60A3 ARMOR CM-ST(PH1)	118	5612	662216	8	82777	8	
19E10 M60A3 ARMOR CM-ST(PH2)	113	5612	634156	8	79270	8	
[illegible]10 M1 ABRAMS ARMOR CM	960	5612	5387520	8	673440	8	
[illegible]10 M1 ABRAMS ARMOR CM-ST(PH1)	7	5612	39284	8	4911	8	
[illegible]K10 M1 ABRAMS ARMOR CM-ST(PH2)	2	5612	11224	8	1403	8	
TOTALS	22343				15673615		

ST/OUT FIXED TRAINING COSTS - FT BENNING

USATC ING SITE COURSES	#TRAINED*	POS/GRAD*	TPCS MOS	COURSE LENGTH*	MOS TPC/WK	BASIC ING #WEEKS	MOS TPCS BT:8wks)
11B10	22453	3284	73725652	13	5671973.21	8	45375785.68
11C10	3658	3099	11022684	13	847899.77	8	6783190.15
11H10	3211	3690	11848590	13	911430.00	8	7291440.00
11M10	353	13993	4939529	13	379963.77	8	3039710.15
TOTALS	29675				7811265.75		

BT OUT VARIABLE TRAINING COSTS - FT BENNING

USATC ING SITE COURSES	#TRAINED*	POS/GRAD*	TPCS/MOS	COURSE LENGTH*	MOS TPC/WK	BASIC ING #WEEKS	MOS TPCS BT:8wks)
11B10	22453	**5680	127533040	8	15941630	8	
11C10	3658	**5680	20209440	8	2526180	8	
11H10	3211	**5680	18238480	8	2279810	8	
11M10	353	**5680	2005040	8	250630	8	
TOTALS	29675				20998250		

**TRADOC WEIGHTED AVERAGE VARIABLE COST WITH STUDENT PAY OF BASIC TRAINING PER GRAD

BT/OSUT FIXED TRAINING COSTS - FT LEONARDWOOD

USATC ING SITE COURSES	#TRAINED*	PCS GRAD*	TPCS/MOS	COURSE LENGTH*	MOS TPC/WK	BASIC TNG *WEEKS	MOS TPCS BT(8wks)
750-BT	17468	2215	28691620	8	4836452.5	8	
12B10 COMBAT ENGR	7233	3641	26335353	13	2025796.4	8	
12C10 BRIDGE SPEC	1037	3849	3991413	13	307031.8	8	
TOTALS	25738				7169280.7		

BT/OSUT VARIABLE TRAINING COSTS - FT LEONARDWOOD

USATC ING SITE COURSES	#TRAINED*	PCS/GRAD*	TPCS/MOS	COURSE LENGTH*	MOS TPC/WK	BASIC TNG *WEEKS	MOS TPCS BT(8wks)
750-BT	17468	5045	88126060	8	11015757.5	8	
12B10 COMBAT ENGR	7233	5045	36490485	8	4561310.6	8	
12C10 BRIDGE SPEC	1037	5045	5231665	8	653958.1	8	
TOTALS	25738				16231026.2		

BT/OBUT FIXED TRAINING COSTS - FT JACKSON

USATC ING SITE COURSES	#TRAINED*	PCS/GRAD*	TPCS/MOS	COURSE LENGTH*	MOS TPC/WK	BASIC ING #WEEKS	MOS TPCS BT: 8wks
750-BT	28422	2880	81855360	8	10231920.00	8	81855360
TOTALS	28422		81855360		10231920.00		81855360

BT/OBUT VARIABLE TRAINING COSTS - FT JACKSON

VTC ING SITE COURSES	#TRAINED*	PCS/GRAD*	TPCS/MOS	COURSE LENGTH*	MOS TPC/WK	BASIC ING #WEEKS	MOS TPCS BT: 8wks
750-BT	28422	5134	145918548	8	18239818.50	8	145918548
TOTALS	28422		145918548		18239818.50		145918548

BT. OUT FIXED TRAINING COSTS - FY DIX

[illegible] TNG SITE COURSES	*TRAINED*	FCS/GRAD*	TFCS/MOS	COURSE LENGTH*	MOS TFC/WK	BASIC TNG *WEEKS	MOS TFCS BT(8wks)
[illegible]-BT	23610	2198	51894780	8	6486847.50	8	51894780
[illegible]-BT(ST)	2989	2071	6190219	8	773777.38	8	6190219
TOTALS	26599		58084999		7260624.88		58084999

BT OUT VARIABLE TRAINING COSTS - FY DIX

[illegible] TNG SITE COURSES	*TRAINED*	FCS/GRAD*	TFCS/MOS	COURSE LENGTH*	MOS TFC/WK	BASIC TNG *WEEKS	MOS TFCS BT(8wks)
[illegible]-BT	23610	5822	137457420	8	17182177.50	8	137457420
[illegible]-BT(ST)	2989	5822	17401958	8	2175244.75	8	17401958
TOTALS	26599		154859378		19357422.25		154859378

BT/OSUT FIXED TRAINING COSTS - FT McCLELLAN

USATC ING SITE COURSES	#TRAINED*	PCS/GRAD*	TPCS/MOS	COURSE LENGTH*	MOS TPC/WK	BASIC ING #WEEKS	MOS TPCS BT/OSUT
750-BT	8264	1887	15594168	8	1949271	8	
95B10	7412	4305	31908660	15.6	2045427	9	
95D10	212	3389	718468	13.8	52062	8	
TOTALS	15888				4046761		

BT/OSUT VARIABLE TRAINING COSTS - FT McCLELLAN

USATC ING SITE COURSES	#TRAINED*	PCS/GRAD*	TPCS/MOS	COURSE LENGTH*	MOS TPC/WK	BASIC ING #WEEKS	MOS TPCS BT/OSUT
750-BT	8264	5999	49575736	8	6196967	8	
95B10	7412	8999	66693588	8	8336694	8	
95D10	212	8999	1907788	8	238474	8	
TOTALS	15888				14771135		

BT OBJT FIXED TRAINING COSTS - FY STILL

USATC ING SITE COURSES	#TRAINED*	PCS/GRAD*	TPCS/MOS	COURSE LENGTH*	MOS TPC/WK	BASIC ING #WEEKS	MOS TPCS BT(8wks)
BT	2894	2263	6549122	8	818640.25	8	6549122.0
13B10 FA CANNON CM	8451	3851	32548652	12	2503742.46	8	20029939.7
13E10 CANNON FIRE DIR	729	4100	2988900	14	213492.86	8	1707942.9
13F10 FA FIRE SUPPT SPEC	1746	4102	7161492	14	511535.43	8	4122555.4
13M10 MLRS CRWMEMBER	488	4096	1998368	14	142740.00	8	1141920.0
16D10 LANCE MSL CM	470	4154	1952380	14	139455.71	8	1115645.7
16E10 PERSHING MSL CM	516	4100	2115920	14	151851.43	8	1214811.4
82D10 FA SURVEYOR	661	3873	3882253	28	225569.61	8	1725356.9
TOTALS	15956		59259859		4700811.75		

BT OBJT VARIABLE TRAINING COSTS - FY STILL

USATC ING SITE COURSES	#TRAINED*	PCS/GRAD*	TPCS/MOS	COURSE LENGTH*	MOS TPC/WK	BASIC ING #WEEKS	MOS TPCS BT(8wks)
BT	2894	6339	18345066	8	2293133.25	8	
13B10 FA CANNON CM	8451	6339	53574189	12	4464515.75	8	
13E10 CANNON FIRE DIR	729	6339	4621131	14	330080.79	8	
13F10 FA FIRE SUPPT SPEC	1746	6339	11067894	14	790563.86	8	
13M10 MLRS CM	488	6339	3093432	14	220959.43	8	
16D10 LANCE MSL CM	470	6339	2979330	14	212809.29	8	
16E10 PERSHING MSL CM	516	6339	3270924	14	233637.43	8	
82D10 FA SURVEYOR	661	6339	4190079	28	299292.17	8	
TOTALS	15956				8435291.45		

APPENDIX IIa

ANTHROPOMETRIC MEASUREMENTS
MALE DATA COLLECTION FORM

SUBJECT NUMBER _____

LAST NAME _____FIRST NAME_____MI _____

SSN _____AGE_____RACE _____

HEIGHT _____cm WEIGHT _____kg

STRENGTH _____ _____ _____

FLEXIBILITY _____ _____ _____

CIRCUMFERENCE MEASUREMENTS

NECK _____ _____ _____

ABDOMEN _____ _____ _____

APPENDIX IIb

PRE-ENTRY HEIGHTS AND WEIGHTS FROM MEPS PHYSICAL

COMPANY_____ DATE SCREENED __/__/__

	NAME (LAST F. MI)	SSN (LAST 4)	DATE OF EXAM	AGE RACE	HEIGHT (INCHES)	WEIGHT (LBS)
1	_____/	_____/	__/__/__	__/__	_____/	_____/
2	_____/	_____/	__/__/__	__/__	_____/	_____/
3	_____/	_____/	__/__/__	__/__	_____/	_____/
4	_____/	_____/	__/__/__	__/__	_____/	_____/
5	_____/	_____/	__/__/__	__/__	_____/	_____/
6	_____/	_____/	__/__/__	__/__	_____/	_____/
7	_____/	_____/	__/__/__	__/__	_____/	_____/
8	_____/	_____/	__/__/__	__/__	_____/	_____/
9	_____/	_____/	__/__/__	__/__	_____/	_____/
10	_____/	_____/	__/__/__	__/__	_____/	_____/
11	_____/	_____/	__/__/__	__/__	_____/	_____/
12	_____/	_____/	__/__/__	__/__	_____/	_____/
13	_____/	_____/	__/__/__	__/__	_____/	_____/
14	_____/	_____/	__/__/__	__/__	_____/	_____/

APPENDIX III

U.S. ARMY BASIC TRAINEE - INJURY AND ILLNESS STUDY

BACKGROUND INFORMATION

TODAY'S DATE (M/D/Y): _____

NAME: _____ SIGNATURE: _____

SSN: _____ SEX: _____ AGE: ____ HEIGHT: _____

WEIGHT: _____ RACE: WHITE BLACK HISP ASIAN OTHER

For questions A thru H, please CIRCLE the appropriate answers.

A. In regard to your **OVERALL PHYSICAL ACTIVITY** how would you describe your life during the past year
1. INACTIVE
2. NOT VERY ACTIVE
3. AVERAGE
4. ACTIVE
5. VERY ACTIVE

B. Compare to others your age and sex, how would you **RATE YOUR PHYSICAL FITNESS:**
1. POOR
2. BELOW AVERAGE
3. AVERAGE
4. ABOVE AVERAGE
5. EXCELLENT

C. During the past month, how often did you **RUN or JOG:**
1. NEVER
2. LESS THAN ONCE A WEEK
3. ABOUT ONCE A WEEK
4. 2 or 3 TIMES A WEEK
5. 4 or MORE TIMES A WEEK

D. When you ran or jogged, how many **MINUTES (on average) did you ACTUALLY SPEND RUNNING OR JOGGING:**
1. DID NOT RUN OR JOG
2. LESS THAN 10 MINUTES
3. FROM 10 to less than 20 MINUTES
4. 20 to 30 MINUTES
5. MORE THAN 30 MINUTES

1

E. Which description **best MATCHES the LEVEL OF ACTIVITY required** by your CIVILIAN JOB

1. **SEDENTARY** Lifting 10 lb maximum. Mostly involves sitting, with some walking and standing. Examples: Secretary, typing, bookkeeping, draftsman, lawyer or paralegal, bank clerk.

2. **LIGHT WORK** Lifting 20 lb maximum with frequent lifting or carrying light objects. Considerable walking or standing, or using of hands and arms. Examples: Retail sales, waiter, nurse, waitress, short order cook, service station attendant, manager.

3. **MEDIUM WORK** Lifting 50 lb maximum. Frequent lifting or carrying up to 25 lb. Examples: Machinist, bricklayer, carpenter, cook, shipping and receiving clerk, general mechanic.

4. **HEAVY WORK** Lifting 100 lb maximum. Frequent lifting or carrying up to 50 lb. Examples: Jackhammer operator, yard worker, frame carpenter, pipe fitter, Diesel mechanic.

5. **VERY HEAVY WORK** Lifting in excess of 100 lb. Frequent lifting/carrying 50 lb or more. Examples: Miner, laborer, piano mover, stonework occupations.

F. In the past TWO WEEKS have you had: **COLD or FLU FEVER NAUSEA VOMITING or DIARRHEA**

G. Do you currently have any **PROBLEMS in these AREAS that LIMIT** your **DAILY ACTIVITIES?** **FEET ANKLES LEGS KNEES BACK**

H. Do you have **FLAT FEET NORMAL ARCHES HIGH ARCHES**

I. In the past month, about how many cigarettes per day have you smoked? _____

J. Do you currently have any **ILLNESSES or HEALTH PROBLEMS that LIMIT your DAILY ACTIVITIES?** If yes, please list _____
_____

K. Are you currently on a **PHYSICAL PROFILE** restricting your military activities? _____

L. Are you currently taking any **MEDICATIONS?** If yes, please list _____

M. Have you ever had an **INJURY or ILLNESS related to PHYSICAL ACTIVITY?** _____ Please explain and give dates for the three most recent events.

E. Which description best MATCHES the LEVEL OF ACTIVITY required by your CIVILIAN JOB

1. SEDENTARY Lifting 10 lb maximum. Mostly involves sitting, with some walking and standing. Examples: Secretary, typing, bookkeeping, draftsman, lawyer or paralegal, bank clerk.

2. LIGHT WORK Lifting 20 lb maximum with frequent lifting or carrying light objects. Considerable walking or standing, or using of hands and arms. Examples: Retail sales, waiter, nurse, waitress, short order cook, service station attendant, manager.

3. MEDIUM WORK Lifting 50 lb maximum. Frequent lifting or carrying up to 25 lb. Examples: Machinist, bricklayer, carpenter, cook, shipping and receiving clerk, general mechanic.

4. HEAVY WORK Lifting 100 lb maximum. Frequent lifting or carrying up to 50 lb. Examples: Jackhammer operator, yard worker, frame carpenter, pipe fitter, Diesel mechanic.

5. VERY HEAVY WORK Lifting in excess of 100 lb. Frequent lifting/carrying 50 lb or more. Examples: Miner, laborer, piano mover, stonework occupations.

F. In the past TWO WEEKS have you had: COLD or FLU FEVER NAUSEA VOMITING or DIARRHEA

G. Do you currently have any PROBLEMS in these AREAS that LIMIT your DAILY ACTIVITIES? FEET ANKLES LEGS KNEES BACK

H. Do you have FLAT FEET NORMAL ARCHES HIGH ARCHES

I. In the past month, about how many cigarettes per day have you smoked? _____

J. Do you currently have any ILLNESSES or HEALTH PROBLEMS that LIMIT your DAILY ACTIVITIES? If yes, please list _____

K. Are you currently on a PHYSICAL PROFILE restricting your military activities? _____

L. Are you currently taking any MEDICATIONS? If yes, please list _____

M. Have you ever had an INJURY or ILLNESS related to PHYSICAL ACTIVITY? _____ Please explain and give dates for the three most recent events.

APPENDIX IV

DAILY TRAINING LOG

DATE___/___/___/
(DD MM YY)

WEEK OF TRAINING:_____DAY OF WEEK: (CIRCLE) M T W T F S S

COMPANY:_____PERSON COMPLETING LOG:_____
(NAME & RANK)

TIME TRAINING DAY STARTED:_____ (HOUR)

TIME TRAINING DAY ENDED:_____ (HOUR)

WEATHER CONDITIONS:_____

MAJOR TRAINING ACTIVITIES FOR THE DAY:_____

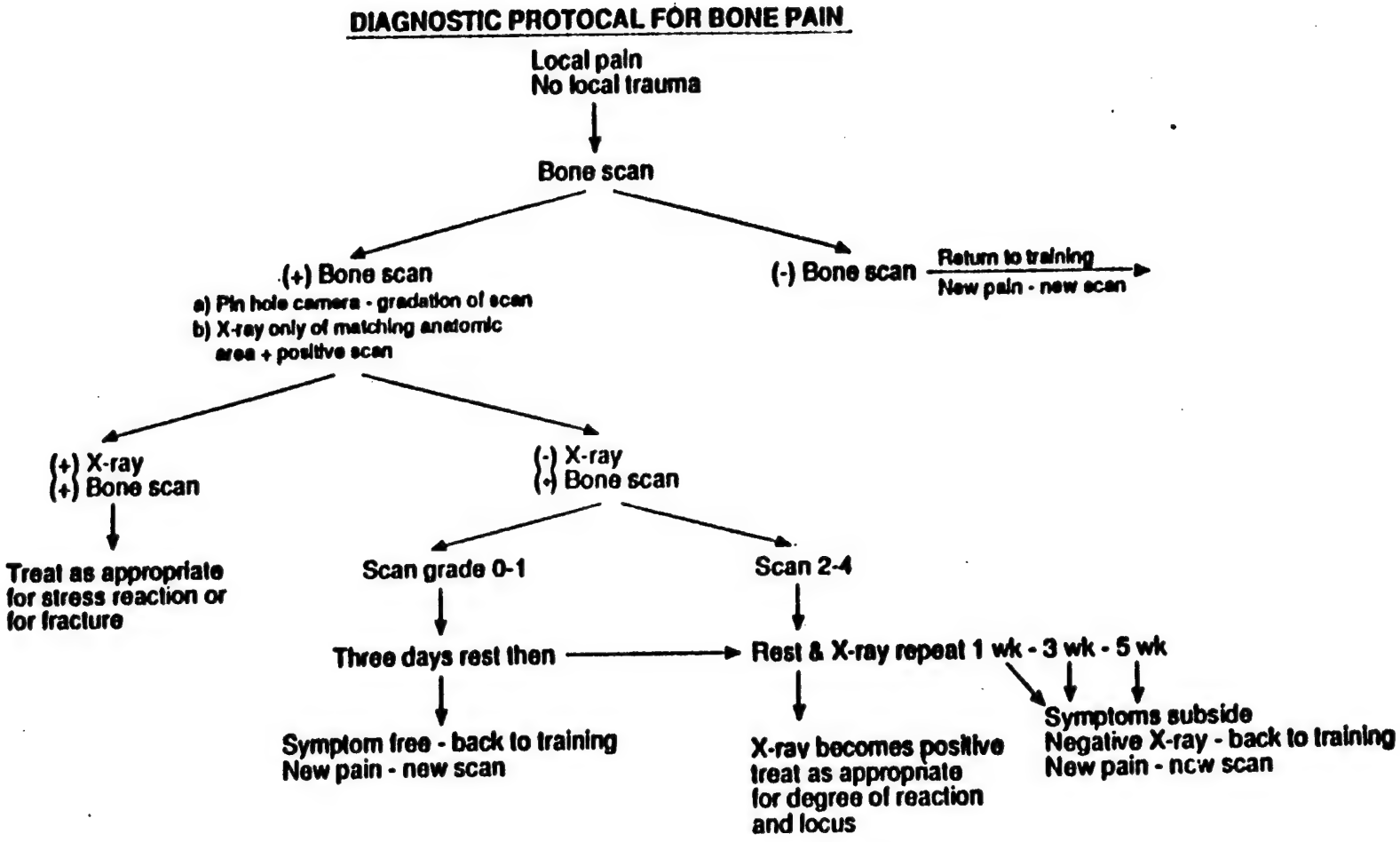
MARCH TO AND FROM TRAINING? ( )YES ( )NO DURATION:____MIN

SPECIFIED TRAINING ACTIVITIES

FOR THE FOLLOWING LIST OF ACTIVITIES CHECK 'YES' FOR THOSE PERFORMED AND 'NO' FOR THOSE NOT PERFORMED.

YES	NO	ACTIVITY	DURATION	DISTANCE
( )	( )	1. RUNNING	___MIN	___MILES
( )	( )	2. ROAD MARCH	___MIN	___MILES
( )	( )	3. BAYONET	___MIN	
( )	( )	4. PUGIL	___MIN	
( )	( )	5. HAND TO HAND	___MIN	
( )	( )	6. CONFIDENCE COURSE	___MIN	
( )	( )	7. OBSTACLE COURSE	___MIN	
( )	( )	8. DRILL & CEREMONY	___MIN	
( )	( )	9. STANDING FORMATION	___MIN	
( )	( )	10. CALISTHENICS	___MIN	
( )	( )	11. STRETCHING	___MIN	
( )	( )	12. GAMES (PLEASE LIST)		
		_____	___MIN	
		_____	___MIN	
( )	( )	13. OTHER ACTIVITIES (PLEASE LIST)		
		_____	___MIN	
		_____	___MIN	

APPENDIX V


DIAGNOSTIC PROTOCAL FOR BONE PAIN
Local pain
No local trauma
Bone scan
(+) Bone scan
a) Pin hole camera - gradation of scan
b) X-ray only of matching anatomic area + positive scan
(-) Bone scan
Return to training
New pain - new scan
(+) X-ray
(+) Bone scan
Treat as appropriate for stress reaction or for fracture
(-) X-ray
(+) Bone scan
Scan grade 0-1
Three days rest then
Symptom free - back to training
New pain - new scan
Scan 2-4
Rest & X-ray repeat 1 wk - 3 wk - 5 wk
X-ray becomes positive treat as appropriate for degree of reaction and locus
Symptoms subside
Negative X-ray - back to training
New pain - new scan

APPENDIX VI

COMPANY:_____ DATE REVIEWED:___/___/___
MO DAY YR

INJURIES: MEDICAL RECORDS REVIEW

FT. BLISS INJURY STUDY 1989

	NAME (LAST F. MI)	DATE MO/DY/YR	DIAGNOSIS (INJURY)	IC	R/L	BODY PART	DISP TYPE	DAYS LOST
1	_____	__/__/__	_____	____	____	_____	_____	_____
2	_____	__/__/__	_____	____	____	_____	_____	_____
3	_____	__/__/__	_____	____	____	_____	_____	_____
4	_____	__/__/__	_____	____	____	_____	_____	_____
5	_____	__/__/__	_____	____	____	_____	_____	_____
6	_____	__/__/__	_____	____	____	_____	_____	_____
7	_____	__/__/__	_____	____	____	_____	_____	_____
8	_____	__/__/__	_____	____	____	_____	_____	_____
9	_____	__/__/__	_____	____	____	_____	_____	_____
10	_____	__/__/__	_____	____	____	_____	_____	_____

HUMAN USE REVIEW COMMITTEE
5 April 1989

DECISIONS AND RECOMMENDATIONS

HURC #,369 "Prevention of stress fractures through modification of basic combat training activities", COL Thomas Scully, Principal Investigator, MAJ Bruce Jones, Responsible Investigator

1. The USARIEM Human Use Review Committee reviewed your proposed study at its meeting of 5 April 1989 and unanimously recommended its approval upon submission to and approval by the Commander, USARIEM, of a revised Volunteer Agreement Affidavit.

2. MAJ Jones was present during the initial discussion of this study and has recorded the corrections to the Volunteer Agreement Affidavit text.

3. All procedures to be employed as well as safety standards conform to the USARIEM Type Protocol on human research studies.

4. This study is judged as involving no more than minimal risk to the participating subjects.

Howard G. Knuttgen

Atch

HOWARD G. KNUTTGEN, PhD
Chairman, HURC

APPENDIX B
QUESTIONNAIRE

INITIAL ENTRY PHYSICAL ACTIVITY AND HEALTH QUESTIONNAIRE

In this questionnaire you will be asked about yourself and your lifestyle. This will include questions about how much exercise you do and any injuries you have had in the past. Read each question carefully and answer as accurately as possible.

I. GENERAL QUESTIONS

NAME:_____ (LAST) _____ (FIRST) _____ (MI) Sex: ☐ MALE ☐ FEMALE

SSN: _ _ _ - _ _ - _ _ _ _ AGE:_ _ HEIGHT:_ _ __ (inches) WEIGHT _ _ _ (pounds)

SSN: 0 1 2 3 4 5 6 7 8 9 | 0 1 2 3 4 5 6 7 8 9 | 0 1 2 3 4 5 6 7 8 9

AGE: 0 1 2 3 4 5 6 7 8 9

HEIGHT: 0 1 2 3 4 5 6 7 8 9 | ☐ 0 ☐ 1/4 ☐ 1/2 ☐ 3/4

WEIGHT: 0 1 2 3 4 5 6 7 8 9

UNIT:

☐ Company 1
☐ Company 2
☐ Company 3
☐ Company 4
☐ Company 5

TODAY'S DATE:_ _ (day) _ _ (month) _ _ (year)

(day): 0 1 2 3 4 5 6 7 8 9

(month): 0 1 2 3 4 5 6 7 8 9

(year): 0 1 2 3 4 5 6 7 8 9

ADDRESS (Home of Record)_____ (NUMBER) _____ (STREET) _____ (APT #)

CITY & STATE_____ ZIP CODE_____

Form Number 75020-5-00

II. PHYSICAL ACTIVITY AND PHYSICAL FITNESS

1. In regards to your OVERALL PHYSICAL ACTIVITY how would you describe your life compared to others of your age and sex?

Very Inactive	Somewhat Inactive	Average	Active	Very Active
☐	☐	☐	☐	☐

2. Compared to others of your age and sex, how would you rate YOUR physical fitness?

Poor	Below Average	Average	Above Average	Excellent
☐	☐	☐	☐	☐

3. Which description BEST MATCHES the LEVEL OF ACTIVITY required by your most recent CIVILIAN JOB.

☐	**SEDENTARY**	Mostly involves sitting, with some walking or standing. Examples: Secretary, typist, book keeper, draftsman, lawyer or paralegal, bank clerk, student.
☐	**LIGHT WORK**	Considerable walking or standing, or using of hands and arms. Examples: Retail salesperson, waiter, nurse, waitress, short order cook, service station attendant, manager.
☐	**MEDIUM WORK**	Frequent lifting or carrying up to 25 pounds. Examples: Machinist, bricklayer, carpenter, cook, shipping and receiving clerk, general mechanic.
☐	**HEAVY WORK**	Frequent lifting or carrying up to 50 pounds. Examples: Jackhammer operator, yard worker, frame carpenter, pipe fitter, diesel mechanic.
☐	**VERY HEAVY WORK**	Frequent lifting or carrying 50 pounds or more. Examples: Miner, laborer, piano mover, stoneworker.

III. PAST INJURIES

1. Have you ever suffered an injury or accident that resulted in your missing work or school?

☐ YES → If YES mark the appropriate year(s) and list the most recent injury(s)

☐ NO

	89	88	87	86	85	before 85	INJURY
	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	

OFFICE USE ONLY

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
#1																					
#2																					

III. PAST INJURIES

2. Have you ever had an injury(s) or accident(s) that required SURGERY to repair the damage?

☐ YES → If YES mark the appropriate year(s) and list the most recent injury(s).
☐ NO

	89	88	87	86	85	before 85	INJURY

OFFICE USE ONLY

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
#1																					
#2																					

3. Have you ever had an accident(s) or injury (s) that caused you to be in the HOSPITAL OVERNIGHT?

☐ YES → If YES mark the appropriate year(s) and list the most recent injury(s).
☐ NO

	89	88	87	86	85	before 85	INJURY

OFFICE USE ONLY

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
#1																					
#2																					

4. Have you ever injured any of the following body parts? If YES mark the body part injured, the year the injury occurred and list the most recent injury.

YES	NO		89	88	87	86	85	before 85	INJURY
☐	☐	LOWER BACK →							
☐	☐	LEGS →							
☐	☐	FEET →							
☐	☐	ARMS OR TRUNK →							

OFFICE USE ONLY

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
#1																					
#2																					
#3																					
#4																					

5. Have you ever had a sprained ankle that restricted what you could do?

☐ YES → If YES, mark which side, and the year.
☐ NO

	RIGHT	LEFT	BOTH	89	88	87	86	85	before 85
Sprain #1	☐	☐	☐ →						
Sprain #2	☐	☐	☐ →						

Form Number 75020-5-72

6. Have you ever suffered a sports or exercise related injury that caused you to miss at least one day of physical activity or work?

☐ YES → If YES, mark the appropriate year(s) and list the most recent ones.
☐ NO

BEFORE 89 88 87 86 85 85 | INJURY

OFFICE USE ONLY
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
#1
#2

7. Have you ever suffered a HEAT or COLD Injury?

☐ YES, HEAT → If YES, mark the appropriate year and list the most recent ones.
☐ YES, COLD
☐ NO

BEFORE 89 88 87 86 85 85 | INJURY

OFFICE USE ONLY
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
#1
#2

IV. ILLNESSES

1. In the PAST TWO WEEKS, have you had:

YES	NO		YES	NO	
☐	☐	Cold	☐	☐	Nausea
☐	☐	Flu	☐	☐	Vomiting
☐	☐	Fever	☐	☐	Diarrhea

2. Have you ever been hospitalized overnight for treatment of a serious illness or disease?

☐ YES → If YES, mark the appropriate year and list the most recent ones.
☐ NO

BEFORE 89 88 87 86 85 85 | ILLNESS

OFFICE USE ONLY
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
#1
#2

V. EXERCISE AND SPORTS IN THE LAST MONTH

1. How often did you exercise or play sports for 15 minutes or more (OTHER THAN RUNNING OR JOGGING) in the last month prior to coming into the army?

☐ NONE IN THE LAST MONTH
☐ LESS THAN ONCE PER WEEK
☐ 1 TIME PER WEEK
☐ 2-3 TIMES PER WEEK
☐ 4 OR MORE TIMES PER WEEK

What exercise or sports_____

EXERCISE AND SPORTS IN THE LAST MONTH (continued)

2. During the PAST MONTH, how often did you run or jog?

Never	Less than once a week	About once a week	2 or 3 times a week	4 or more times a week
☐	☐	☐	☐	☐

3. When you ran or jogged, how many MINUTES (on average) did you ACTUALLY SPEND running or jogging?

Did not run or jog	Less than 10 min	Between 10 and 20 min	20 to 30 minutes	More than 30 min
☐	☐	☐	☐	☐

4. If you exercised (not running or jogging) in the last month, how many minutes did you exercise each time, on the average?

Did not exercise	Less than 10 min	Between 10 and 20 min	20 to 30 minutes	More than 30 min
☐	☐	☐	☐	☐

5. How many times did you do STRENGTH TRAINING for more than 15 minutes in the last month?

- ☐ Did not do strength training
- ☐ 1 time per week
- ☐ 2 times per week
- ☐ 3 times per week
- ☐ 4 or more times per week

6. Was STRETCHING a regular part of your exercise in the last month?

- ☐ No, I did not exercise
- ☐ No, I exercised but did not stretch
- ☐ I stretched less than half of the times I exercised
- ☐ I stretched about half of the times I exercised
- ☐ I stretched more than half of the times I exercised
- ☐ I always stretch

VI. MISCELLANEOUS

1. How would you classify your feet, compared to others of your age and sex?

- ☐ FLAT
- ☐ HIGH ARCHES
- ☐ NORMAL ARCHES

2. Are you?

- ☐ RIGHT HANDED
- ☐ LEFT HANDED

3 Do you have problems with your feet that sometimes cause you to limit your daily activities?

- ☐ YES
- ☐ NO

4. How would you classify your legs compared to others of your age and sex?

- ☐ KNOCK KNEED
- ☐ BOW LEGGED
- ☐ NORMAL

5. Are you?

- ☐ RIGHT FOOTED
- ☐ LEFT FOOTED

6. Do you have back pain that sometimes causes you to limit your daily activities?

- ☐ YES
- ☐ NO

7. Compared to others of your age and sex, how would you rate your....

	POOR	BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	EXCELLENT
A. ENDURANCE	☐	☐	☐	☐	☐
B. SPRINT SPEED	☐	☐	☐	☐	☐
C. STRENGTH	☐	☐	☐	☐	☐
D. FLEXIBILITY	☐	☐	☐	☐	☐

8. Did you participate in varsity sports in high school or college?

- ☐ YES → If YES, list the sport and mark whether or not you lettered and the year you last lettered.
- ☐ NO

SPORT	LETTER? YES	LETTER? NO	BEFORE 89 88 87 86 85 85
_____	☐	☐	☐☐☐☐☐☐☐
_____	☐	☐	
_____	☐	☐	

OFFICE USE ONLY

	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
#1	
#2	

9. Which of the following statements BEST describes your smoking history (before entering the Army)??

- ☐ NEVER SMOKED
- ☐ SMOKED BUT QUIT
- ☐ SMOKED LESS THAN 10 CIGARETTES PER DAY
- ☐ SMOKED 10 TO 20 CIGARETTES PER DAY
- ☐ SMOKED MORE THAN 20 CIGARETTES PER DAY

10. What best describes your ethnic group?

- ☐ ASIAN
- ☐ BLACK
- ☐ HISPANIC
- ☐ WHITE
- ☐ OTHER

FORT BLISS 1989 DATABASE

APPENDIX C
DATA COLLECTION/EXTRACTION FORMS

FT BLISS STUDY - 1989

ANTHROPOMETRIC DATA COLLECTION FORM

SUBJECT NUMBER _____

NAME _____ SSN _____- ____-_____
(LAST, FIRST, MI)

HEIGHT _____ . ____ cm WEIGHT _____ . ____ kg

NECK CIRC. ____ . __ ____ . __ ____ . __ cm

ABDOMINAL CIRC. ____ . __ ____ . __ ____ . __ cm

FLEXIBILITY _____ _____ _____ mm

MPJ FOOT LENGTH ____ . __ cm

FOOT LENGTH ____ . __ cm

FOOT WIDTH ____ . __ cm

DORSUM HEIGHT _____ mm

NAVICULAR HEIGHT _____ mm

APPENDIX IV

DAILY TRAINING LOG

DATE___/___/___/
(DD MM YY)

WEEK OF TRAINING:_____DAY OF WEEK: (CIRCLE) M T W T F S S

COMPANY:_____PERSON COMPLETING LOG:_____
(NAME & RANK)

TIME TRAINING DAY STARTED:_____ (HOUR)

TIME TRAINING DAY ENDED:_____ (HOUR)

WEATHER CONDITIONS:_____

MAJOR TRAINING ACTIVITIES FOR THE DAY:_____

MARCH TO AND FROM TRAINING? ( )YES ( )NO DURATION:____MIN

SPECIFIED TRAINING ACTIVITIES

FOR THE FOLLOWING LIST OF ACTIVITIES CHECK 'YES' FOR THOSE PERFORMED AND 'NO' FOR THOSE NOT PERFORMED.

YES	NO	ACTIVITY	DURATION	DISTANCE
( )	( )	1. RUNNING	___MIN	___MILES
( )	( )	2. ROAD MARCH	___MIN	___MILES
( )	( )	3. BAYONET	___MIN	
( )	( )	4. PUGIL	___MIN	
( )	( )	5. HAND TO HAND	___MIN	
( )	( )	6. CONFIDENCE COURSE	___MIN	
( )	( )	7. OBSTACLE COURSE	___MIN	
( )	( )	8. DRILL & CEREMONY	___MIN	
( )	( )	9. STANDING FORMATION	___MIN	
( )	( )	10. CALISTHENICS	___MIN	
( )	( )	11. STRETCHING	___MIN	
( )	( )	12. GAMES (PLEASE LIST)		
		_____	___MIN	
		_____	___MIN	
( )	( )	13. OTHER ACTIVITIES (PLEASE LIST)		
		_____	___MIN	
		_____	___MIN	

FT BLISS STUDY - 1989

INJURIES: MEDICAL RECORDS REVIEW

COMPANY: _____ DATE REVIEWED: ___/___/___ MO DY YR

	NAME (LAST F, MI)	DATE MO/DY/YR	DIAGNOSIS (INJURY)	IC	SD	BODY PART	VST	DSP	DAYS LOST
1	_____	__/__/__	_____	___	___	_____	_____	_____	____
	X-RAY _____, INTERP/GRADE _____: BONE SCAN _____, GRADE ___								
2	_____	__/__/__	_____	___	___	_____	_____	_____	____
	X-RAY _____, INTERP/GRADE _____: BONE SCAN _____, GRADE ___								
3	_____	__/__/__	_____	___	___	_____	_____	_____	____
	X-RAY _____, INTERP/GRADE _____: BONE SCAN _____, GRADE ___								
4	_____	__/__/__	_____	___	___	_____	_____	_____	____
	X-RAY _____, INTERP/GRADE _____: BONE SCAN _____, GRADE ___								
5	_____	__/__/__	_____	___	___	_____	_____	_____	____
	X-RAY _____, INTERP/GRADE _____: BONE SCAN _____, GRADE ___								
6	_____	__/__/__	_____	___	___	_____	_____	_____	____
	X-RAY _____, INTERP/GRADE _____: BONE SCAN _____, GRADE ___								

NATICK Form 739b (ONE-TIME)
1 Jul 89

FT BLISS STUDY - 1989

ILLNESSES: MEDICAL RECORDS REVIEW

COMPANY: _____ DATE REVIEWED: ___/___/___ MO DY YR

	NAME (LAST F, MI)	DATE MO/DY/YR	DIAGNOSIS (ILLNESS)	TEMP (F)	IC	SYSTM	VST	DSP	DAYS LOST
1	_____	__/__/__	_____	_____	___	_____	_____	_____	___
2	_____	__/__/__	_____	_____	___	_____	_____	_____	___
3	_____	__/__/__	_____	_____	___	_____	_____	_____	___
4	_____	__/__/__	_____	_____	___	_____	_____	_____	___
5	_____	__/__/__	_____	_____	___	_____	_____	_____	___
6	_____	__/__/__	_____	_____	___	_____	_____	_____	___
7	_____	__/__/__	_____	_____	___	_____	_____	_____	___
8	_____	__/__/__	_____	_____	___	_____	_____	_____	___
9	_____	__/__/__	_____	_____	___	_____	_____	_____	___
10	_____	__/__/__	_____	_____	___	_____	_____	_____	___

NATICK Form 739a (ONE-TIME)
1 Jul 89

VOLUNTEER AGREEMENT AFFIDAVIT

For use of this form, see AR 70-25; the proponent agency is OTSG

PRIVACY ACT OF 1974

Authority:	10 USC 3013, 44 USC 3101, and 10 USC 1071-1087
Principle Purpose:	To document voluntary participation in the Clinical Investigation and Research Program. SSN and home address will be used for identification and locating purposes.
Routine Uses:	The SSN and home address will be used for identification and locating purposes. Information derived from the study will be used to document the study; implementation of medical programs; adjudication of claims, and for the mandatory reporting of medical conditions as required by law. Information may be furnished to Federal, State and local agencies.
Disclosure:	The furnishing of your SSN and home address is mandatory and necessary to provide identification and to contact you if future information indicates that your health may be adversely affected. Failure to provide the information may preclude your voluntary participation in this investigational study.

PART A(1) - VOLUNTEER AFFIDAVIT

Volunteer Subjects in Approved Department of the Army Research Studies

Volunteers under the provisions of AR 40-38 and AR 70-25 are authorized all necessary medical care for injury or disease which is the proximate result of their participation in such studies.

I, _____, SSN _____.

having full capacity to consent and having attained my _____ birthday, do hereby volunteer/give consent as legal representative for _____ to participate in _____

Prevention of Stress Fractures Through Modification of Basic Combat Training

(Research study)

Physical Training Activities Based on Biodynamics (Part I)

under the direction of Colonel Thomas J. Scully, MC

conducted at William Beaumont Army Medical Center

(Name of Institution)

The explications of my voluntary participation/consent as legal representative; duration and purpose of the research study; the methods and means by which it is to be conducted; and the inconveniences and hazards that may reasonably be expected have been explained to me by

Colonel Scully

I have been given an opportunity to ask questions concerning this investigational study. Any such questions were answered to my full and complete satisfaction. Should any further questions arise concerning my rights/the rights of the person I represent on study-related injury, I may contact

Staff Judge Advocate

at William Beaumont Army Medical Center, El Paso, TX 915+ 569-2236/2280

(Name, Address and Phone Number of Hospital (Include Area Code))

I understand that I may at any time during the course of this study revoke my consent and withdraw/have the person I represent withdrawn from the study without further penalty or loss of benefits; however, if the person I represent may be required (military volunteer) or requested (civilian volunteer) to undergo certain examination if, in the opinion of the attending physician, such examinations are necessary for my/the person I represent's health and well-being. My/the person I represent's refusal to participate will involve no penalty or loss of benefits to which I am/the person I represent is otherwise entitled.

_____

PART A (2) - ASSENT VOLUNTEER AFFIDAVIT (MINOR CHILD)

I, _____, SSN _____ having full capacity to consent and having attained my _____ birthday, do hereby volunteer for _____ _____ to participate in _____

_____

(Research Study)

_____

under the direction of _____

conducted at _____

(Name of Institution)

(Continue on Reverse)

PART A(2) - ASSENT VOLUNTEER AFFIDAVIT (MINOR CHILD) (Cont'd.)

The implications of my voluntary participation; the nature, duration and purpose of the research study; the methods and means by which it is to be conducted; and the inconveniences and hazards that may reasonably be expected have been explained to me by

_____

I have been given an opportunity to ask questions concerning this investigational study. Any such questions were answered to my full and complete satisfaction. Should any further questions arise concerning my rights I may contact

_____

at _____

(Name, Address, and Phone Number of Hospital Brooke Army Center)

I understand that I may at any time during the course of this study revoke my assent and withdraw from the study without further penalty or loss of benefits; however, I may be requested to undergo certain examination if, in the opinion of the attending physician, such examinations are necessary for my health and well-being. My refusal to participate will involve no penalty or loss of benefits to which I am otherwise entitled.

_____

PART B - TO BE COMPLETED BY INVESTIGATOR

INSTRUCTIONS FOR ELEMENTS OF INFORMED CONSENT *(Provide a detailed explanation in accordance with Appendix E, AR 40-38 or AR 70-25.)*

You have volunteered to participate in a research study to determine the relationship between physical fitness training and musculoskeletal (pertaining to the muscles and skeleton) injuries during initial Army training.

The first part of this study will be conducted before you go to your unit to begin training. For this portion of the study, you will be asked to fill out a questionnaire. The questionnaire will ask about you past participation in sports, recreation, and physical training activities. Also, you will be asked about previous injuries that have significantly affected your ability to perform your normal daily activities.

During this first part of the study, several measurements will be made of your body, such as height and weight, and your ability to perform simple tasks like touching your toes and lifting an object. The questionnaire and the measurements will take between 1 and 2 hours to complete.

No further measurements will be made on you after the first part of the study. During your One Statio Unit Training or Basic Combat Training we will record your performance on all Army Physical Fitness tests for comparison with your listing of fitness on the questionnaire. Also, we will record all visits that you make for medical attention for injuries during this initial training period in the Army. you may als be asked to keep a diary of your training.

Number of Trainees to be Studies: 1200

I do ☐ do not ☐ *(check one & initial)* consent to the inclusion of this form in my outpatient medical treatment record.

SIGNATURE OF VOLUNTEER	DATE	SIGNATURE OF LEGAL GUARDIAN *(If volunteer is a minor)*
PERMANENT ADDRESS OF VOLUNTEER	TYPED NAME OF WITNESS	
	SIGNATURE OF WITNESS	DATE

REVERSE OF DA FORM 5303-R, MAY 88

Benefits: The results of this study are unlikely to be of direct benefit to you. However, they should be of benefit to the Army in determining what aspects of physical training contribute most to the likelihood of musculoskeletal injuries, and also those which contribute most to the development of fitness.

Risks: There are no risks associated with participating in this study.

DURATION OF STUDY: 24 months

EXPECTED DURATION OF SUBJECTS PARTICIPATION: 1-2 hours

ASSURANCE OF CONFIDENTIALITY: During the course of your treatment as a patient at William Beaumont Army Medical Center, you have been provided a copy of the Privacy Act Statement (DD Form 2005) which has made you aware of the safeguards available because of the privacy Act of 1974. You have been given the opportunity to review the DD Form 2005, ask questions, and retain a personal copy. You have been made aware that the information gained because of your participation in this study may be publicized in the medical literature, discussed as an educational model, and used generally in the furtherance of medical science. Information gained from this study may be used as part of a scientific publication in medical or professional journals, but you will in no way be personally identified. Authorized representatives of the Department of Defense may review the records of this research.

In the event of physical injury resulting from the investigational procedures, the extent of medical care provided is limited and will be within the scope authorized for DOD health care beneficiaries. Necessary medical care does not include domiciliary (home or nursing home) care.

You will be provided a copy of this consent form.

YOU MAY CONTACT COL SCULLY FOR ANSWERS TO PERTINENT QUESTIONS ABOUT THE RESEARCH OR TO REPORT RESEARCH RELATED INJURIES. (569-7288)

SIGNIFICANT NEW FINDINGS: Any significant new findings developed during the course of this study will be available to you upon request.

FOR INFORMATION REGARDING THE RIGHTS OF STUDY SUBJECTS, CONTACT THE STAFF JUDGE ADVOCATE, WILLIAM BEAUMONT ARMY MEDICAL CENTER (569-2236/2280).

PARTICIPATION IN THIS STUDY IS VOLUNTARY. REFUSAL TO PARTICIPATE WILL INVOLVE NO PENALTY OR LOSS OF BENEFITS TO WHICH YOU ARE OTHERWISE ENTITLED. YOU MAY DISCONTINUE PARTICIPATION AT ANY TIME WITHOUT PENALTY OR LOSS OF YOUR ENTITLED BENEFITS.

VOLUNTEER AGREEMENT AFFIDAVIT

For use of this form, see AR 70-25; the proponent agency is OTSG

PRIVACY ACT OF 1974

Authority: 10 USC 3013, 44 USC 3101, and 10 USC 1071-1087.

Principle Purpose: To document voluntary participation in the Clinical Investigation and Research Program. SSN and home address will be used for identification and locating purposes.

Routine Uses: The SSN and home address will be used for identification and locating purposes. Information derived from the study will be used to document the study, implementation of medical programs, adjudication of claims, and for the mandatory reporting of medical conditions as required by law. Information may be furnished to Federal, State and local agencies.

Disclosure: The furnishing of your SSN and home address is mandatory and necessary to provide identification and to contact you if future information indicates that your health may be adversely affected. Failure to provide the information may preclude your voluntary participation in this investigational study.

PART A(1) - VOLUNTEER AFFIDAVIT

Volunteer Subjects in Approved Department of the Army Research Studies

Volunteers under the provisions of AR 40-38 and AR 70-25 are authorized all necessary medical care for injury or disease which is the proximate result of their participation in such studies.

I, _____, SSN _____.

having full capacity to consent and having attained my _____ birthday, do hereby volunteer/give consent as legal representative for _____ to participate in _____

The Utility of Thermographic Evaluation in the Diagnosis of Lower Extremity Injuries During Army Initial Entry Training

(Research study)

under the direction of Major Bruce H. Jones (Responsible Investigator)

conducted at William Beaumont Army Medical Center, El Paso, TX 79920-5001.

(Name of Institution)

The implications of my voluntary participation/consent as legal representative; duration and purpose of the research study; the methods and means by which it is to be conducted; and the inconveniences and hazards that may reasonably be expected have been explained to me by

Bruce H. Jones (508) 651-4887 or AV 256-4887

I have been given an opportunity to ask questions concerning this investigational study. Any such questions were answered to my full and complete satisfaction. Should any further questions arise concerning my rights/the rights of the person I represent on study-related injury, I may contact

Staff Judge Advocate

at William Beaumont Army Medical Center, El Paso, TX 79920-5001 915+ 569-2236

(Name, Address and Phone Number of Hospital (Include Area Code))

I understand that I may at any time during the course of this study revoke my consent and withdraw/have the person I represent withdrawn from the study without further penalty or loss of benefits; however, if the person I represent may be required (military volunteer) or requested (civilian volunteer) to undergo certain examination if, in the opinion of the attending physician, such examinations are necessary for my/the person I represent's health and well-being. My/the person I represent's refusal to participate will involve no penalty or loss of benefits to which I am/the person I represent is otherwise entitled.

_____

PART A (2) - ASSENT VOLUNTEER AFFIDAVIT (MINOR CHILD)

I, _____, SSN _____ having full

assent

capacity to ~~consent~~ and having attained my _____ birthday, do hereby volunteer for _____

_____ to participate in _____

_____

(Research Study)

_____

under the direction of _____

conducted at _____.

(Name of Institution)

(Continue on Reverse)

PART A(2) - ASSENT VOLUNTEER AFFIDAVIT (MINOR CHILD) (Cont'd)

The implications of my voluntary participation, the nature, duration and purpose of the research study, the methods and means by which it is to be conducted, and the inconveniences and hazards that may reasonably be expected have been explained to me by

_____

I have been given an opportunity to ask questions concerning this investigational study. Any such questions were answered to my full and complete satisfaction. Should any further questions arise concerning my rights I may contact

_____

at _____

(Name, Address, and Phone Number of Hospital (Include Area Code))

I understand that I may at any time during the course of this study revoke my assent and withdraw from the study without further penalty or loss of benefits; however, I may be requested to undergo certain examination if, in the opinion of the attending physician, such examinations are necessary for my health and well-being. My refusal to participate will involve no penalty or loss of benefits to which I am otherwise entitled.

_____

PART B - TO BE COMPLETED BY INVESTIGATOR

INSTRUCTIONS FOR ELEMENTS OF INFORMED CONSENT: *(Provide a detailed explanation in accordance with Appendix E, AR 40-38 or AR 70-25.)*

You have volunteered to participate in a study to determine the usefulness of infra-red photography (also known as thermography) to diagnose leg and foot injuries. Infra-red photography is similar in some ways to normal photography. Infra-red photography makes images from heat waves emitted from your body instead of making pictures from light waves reflected from your body, as with normal photography. When the body is injured, it frequently emits more heat than usual, and sometimes less. By taking pictures of the heat from your body when you are injured, we hope to demonstrate that infra-red photography is helpful in determining the nature of your injury, and when you are ready to return to training.

Before basic training begins we will ask you some questions about your health and physical fitness before you joined the Army. You will be asked to record your responses on a questionnaire which will be handed out to you. Also, before you begin basic training we will measure your height, weight, and percent of body fat (the later with tape measures of your neck and waist), and we will inspect and measure your feet. Additionally, we will determine how flexible you are by having you sit on the floor and push a slide on a ruler towards your toes as far as you can. At the time of these other measurements, we will also take several infra-red photographs of your feet and legs from the front, back and sides.

During the 8 weeks of your basic training we will follow your health by periodically reviewing your medical records. Also, anytime you report to the health clinic on sick call we may take another series of infra-red photographs (as above).. Furthermore, some of you will be asked to have these infra-red photographs taken of you any time you report to the clinic.

I do ☐ do not ☐ *(check one & initial)* consent to the inclusion of this form in my outpatient medical treatment record.

SIGNATURE OF VOLUNTEER	DATE	SIGNATURE OF LEGAL GUARDIAN *(If volunteer is a minor)*
PERMANENT ADDRESS OF VOLUNTEER	TYPED NAME OF WITNESS	
	SIGNATURE OF WITNESS	DATE

PART B - TO BE COMPLETED BY INVESTIGATOR (cont'd)

During basic training we will also collect the results of your physical training test scores, and information about your company's physical training from your company commander.

REASONABLY FORESEEABLE RISKS OR DISCOMFORTS: Infra-red photography is a safe procedure and should pose no more risk to you than having a photography taken under similar circumstances. The other measurements we will make of you should not put you at any significant risk of harm. The greatest risk will probably occur as a result of the toe touching test where it is possible you could strain your back or a muscle in your legs.

BENEFITS TO THE SUBJECT OR OTHERS: This study will provide no direct benefits to you, however, the information gathered on you and others may be of great benefit to other trainees, like yourself, in the future, and also to the Army. If infra-red photography is proven useful in this study, it could provide an inexpensive, safe way to detect injuries early and help make better decisions about when soldiers are ready to resume normal activities after injury.

CONFIDENTIALITY OF INFORMATION ON MILITARY TEST SUBJECTS: All data and medical information obtained about you as an individual will be considered privileged and held in confidence. Complete confidentiality cannot be promised to subjects who are military members, because information bearing on your health may be required to be reported to appropriate medical or Command authorities, and applicable regulations note the possibility that the Food and Drug Administration and USAMRDC officials may inspect the records.

SIGNIFICANT NEW FINDINGS: Any significant new findings developed during the course of this study will be available to you upon request.

APPROXIMATE NUMBER OF SUBJECTS INVOLVED IN THE STUDY: 1000

DOMICILIARY STATEMENT: The extent of medical care provided, should it become necessary, is limited and will be within the scope authorized for DOD health care beneficiaries. Necessary medical care does not include domiciliary care.

DURATION OF STUDY: 20 weeks

EXPECTED DURATION OF SUBJECT'S PARTICIPATION: 8 weeks

For information regarding the rights of study subjects, contact the Staff Judge Advocate, William Beaumont Army Medical Center (569-2236/2280).

Participation in this study is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of your entitled benefits.

For further information, please contact the principal physician, Dr. DiBenedetto, 569-2233.

If there is any portion of this explanation that you do not understand, ask the physician before signing.

SIGNATURE OF VOLUNTEER	DATE SIGNED	SIGNATURE OF LEGAL GUARDIAN (If volunteer is a minor)
PERMANENT ADDRESS OF VOLUNTEER	TYPED OR PRINTED NAME AND SIGNATURE OF WITNESS	DATE SIGNED

FORT BLISS 1989 DATABASE

APPENDIX D
DATABASE CODEBOOKS

Fort Bliss 89 Codes
4D Filename - FB MAIN FILE

Field Name	Description	Missing Values	Format	Responses
SUB NUM	Subject Number, Unique		Alpha10 (89B####)	
COMPANY	Basic Training Unit		Alpha4	Value Frequency C1 260 C1B 16 C1B9 3 D1A 215 D1B 264 D1BW 1 D1C 4 D1C8 6 D3 212 D3B 5 D3B7 5 D3C 1 E1 228 E3 221 --- Total 1441
Last Name			Alpha15	
First Name			Alpha15	
SSN	Social Security Number		Alpha11	
Sex			Alpha6	Value Frequency MALE 1441 --- Total 1441
Age			Integer	# Non-missing 1441 Mean 19.020 Median 18.000 Minimum 17.000 Maximum 40.000
DT STARTED	Training Start Date	00/00/00 (23)	Date	# Non-missing 1418 Minimum 7/21/89 Maximum 7/13/90
Q Sub Num	same as Sub Number, used for linking to Bliss Quest file		Alpha10	

Field Name	Description	Missing Values	Format	Responses
IL Sub Num	same as Sub Number, used for linking to FB ILLNESS file		Alpha10	
AN Sub Num	same as Sub Number, used for linking to FB ANTHROPOMETR file		Alpha10	
IN Sub Num	same as Sub Number, used for linking to FB INJURY file		Alpha10	
AP Sub Num	same as Sub Number, used for linking to FB APRT file		Alpha10	
Subject Info	Information in database for subject 1=Subject 5=Anthro only, late Unit 7=Anthro only 8=Questionnaire only 9=Non-subject			Value Frequency 1 1357 5 41 7 26 8 7 9 10 --- Total 1441
MSI OU	Type code of most significant overuse injury. 1 = STRS_FX 2 = STRS_RXN 3 = ACH_TND 4 = OTH_TND 5 = BURSITIS 6 = FASCITIS 7 = OU_INJ 9 = PAIN	0 (1223)	Integer	Value Frequency 1.00 43 2.00 36 3.00 1 4.00 4 5.00 8 6.00 9 7.00 54 9.00 63 .00 1223 --- Total 1441
MSI OU numinj	Number of separate overuse injuries.	0 (1223)	Integer	# Non-missing 218 Mean 1.151 Median 1.000 Minimum 1.000 Maximum 3.000

Fort Bliss 89 Codes
4D Filename - FB MAIN FILE

Field Name	Description	Missing Values	Format	Responses
MSI OU numvisit	Number of clinic visits resulting from overuse injuries.	0 (1223)	Integer	# Non-missing 218 Mean 1.436 Median 1.000 Minimum 1.000 Maximum 4.000
MSI OU dl	Total number of days lost due to overuse injuries.	0 (1283)	Integer	# Non-missing 158 Mean 7.108 Median 5.000 Minimum 1.000 Maximum 56.000
MSI TR	Type code of most significant traumatic injury. 8 = TR_INJ 10 = STRAIN 11 = SPRAIN 12 = DISLOCN 13 = FRACTURE 14 = BLISTER 15 = ABRSN_LC 16 = CONTSN	0 (1260)	Integer	Value Frequency 8.00 3 10.00 38 11.00 60 12.00 1 13.00 15 14.00 23 15.00 22 16.00 19 .00 1260 Total 1441
MSI TR numinj	Number of separate traumatic injuries.	0 (1260)	Integer	# Non-missing 181 Mean 1.105 Median 1.000 Minimum 1.000 Maximum 3.000
MSI TR numvisit	Number of clinic visits resulting from traumatic injuries.	0 (1260)	Integer	# Non-missing 181 Mean 1.315 Median 1.000 Minimum 1.000 Maximum 8.000
MSI TR dl	Total number of days lost due to traumatic injuries.	0 (1304)	Integer	# Non-missing 137 Mean 6.416 Median 4.000 Minimum 1.000 Maximum 42.000

Fort Bliss 89 - Anthropometric Codes
4D Filename - FB ANTHROPOMETR

Field Name	Description	Missing Values	Calculation	Format	Responses
AN SUB NUM	Subject Number, Unique			Alpha10 (88J####)	
AN UNIT	Basic Training Unit			Alpha 4	Value Frequency C1 254 C1B 20 D1A 209 D1B 263 D1BR 1 D1BW 1 D1C8 10 D3 213 D3B 10 E1 224 E3 219 ------- Total 1424
AN LNAME	Last Name			Alpha 15	
AN FNAME	First Name			Alpha 12	
AN MI	Middle Initial	__ (0)		Alpha 1	# Non-missing 1424
AN ACC NUM	Entered as 1 for everyone			Integer	Value Frequency 1 1424 ------- Total 1424
AN SSN	Social Security Number			Alpha 11 (###-##-####)	
AN SEX					Value Frequency MALE 1424 ------- Total 1424
AN SEX CD	1=Male			Integer	Value Frequency 1 1424 ------- Total 1424

Fort Bliss 89 - Anthropometric Codes
4D Filename - FB ANTHROPOMETR

Field Name	Description	Missing Values	Calculation	Format	Responses
AN AGE				Integer	# Non-missing 1424 Mean 19.030 Median 18.000 Minimum 17.000 Maximum 40.000
AN HT	Height in CM	0 (5)		Real	# Non-missing 1419 Mean 175.827 Median 175.800 Minimum 153.600 Maximum 200.200
AN WT	Weight in Kg	0 (5)		Real	# Non-missing 1429 Mean 75.766 Median 74.200 Minimum 49.000 Maximum 116.400
AN BMI	Body Mass Index (kg/m^2)	0 (5)	AN WT/((AN HT/100)^2)	Real	# Non-missing 1419 Mean 24.480 Median 23.888 Minimum 16.640 Maximum 37.617
AN NEK1 M	1st neck measurement (cm)	0 (7)		Real	# Non-missing 1417
AN NEK2 M	2nd neck measurement (cm)	0 (7)		Real	# Non-missing 1417
AN NEK3 M	3rd neck measurement (cm)	0 (8)		Real	# Non-missing 1416
AN NEK AVG M	Average of three neck measurements (cm)	0 (7)	(AN NEK1 M + AN NEK2 M + AN NEK3 M)/3	Real	# Non-missing 1417 Mean 37.497 Median 37.330 Minimum 24.970 Maximum 48.130
AN ABD1 M	1st abdomen measurement (cm)	0 (7)		Real	# Non-missing 1417
AN ABD2 M	2nd abdomen measurement (cm)	0 (7)		Real	# Non-missing 1417
AN ABD3 M	3rd abdomen measurement (cm)	0 (7)		Real	# Non-missing 1417

Fort Bliss 89 - Anthropometric Codes
4D Filename - FB ANTHROPOMETR

Field Name	Description	Missing Values	Calculation	Format	Responses
AN ABD AVG M	Average of three abdomen measurements (cm)	0 (7)	(AN ABD1+AN ABD2+ AN ABD3)/3	Real	# Non-missing 1417 Mean 82.239 Median 80.430 Minimum 62.370 Maximum 113.230
AN ARMY BFM	Army Body Fat Calculation	0 (7)	if (AN ABD2 M>0, (46.892-(68.687*(Log (AN HT))*0.4342944)+ (76.462*(Log(AN ABD AVG M-AN NEK AVG M)* 0.43429448))),0)	Real	# Non-missing 1417 Mean 18.406 Median 17.600 Minimum 3.500 Maximum 34.100
AN NAVY BFM	Navy Body Fat Calculation	0 (7)	if (AN ABD AVG M>0, ((4.95/AN BDM)-4.5) *100,0)	Real	# Non-missing 1417 Mean 14.551 Median 13.527 Minimum -1.102 Maximum 32.033
AN BDM	Body Density Calculation		if (AN ABD3 M>0, (1.0324+(0.15456*(Log(AN HT))*0.434292)- (0.19077*(Log(AN ABD AVG M-AN NEK AVG M))*0.434292)),1)	Real	# Non-missing 1424 Mean 1.065 Median 1.068 Minimum 1.000 Maximum 1.103
AN FLEX1		0 (8)			# Non-missing 1416
AN FLEX2		0 (8)			# Non-missing 1416
AN FLEX3		0 (8)			# Non-missing 1416
AN AVG FLEX	Average Flexibility (cm)	0 (8)	(AN FLEX1+AN FLEX2+ AN FLEX3)/3	Real	# Non-missing 1426 Mean 30.073 Median 30.300 Minimum 7.000 Maximum 49.200
AN AVG FLEX HT		0 (8)	AN AVG FLEX/AN HT		# Non-missing 1416 Mean 0.171 Median 0.173 Minimum 0.039 Maximum 0.285

Field Name	Description	Missing Values	Calculation	Format	Responses
AN MPJ FOOT LEN	measured in cm	0 (7)			# Non-missing 1417 Mean 19.563 Median 19.600 Minimum 10.700 Maximum 26.000
AN FOOT LENGTH	measured in cm	0 (7)			# Non-missing 1417 Mean 26.842 Median 26.800 Minimum 10.800 Maximum 31.400
AN FOOT WIDTH	measured in cm	0 (7)			# Non-missing 1417 Mean 10.358 Median 10.300 Minimum 5.500 Maximum 20.500
AN DORSUM HEIGH	measured in mm	0 (7)			# Non-missing 1417 Mean 63.384 Median 64.000 Minimum 30.000 Maximum 98.000
AN D HT MPJ L		0 (7)	(AN DORSUM HEIGH/10)/ AN MPJ FOOT LEN		# Non-missing 1417 Mean 0.326 Median 0.330 Minimum 0.150 Maximum 0.510
AN D HT FT L		0 (7)	(AN DORSUM HEIGH/10)/ AN FOOT LENGTH		# Non-missing 1417 Mean 0.237 Median 0.240 Minimum 0.120 Maximum 0.510
AN NAVICULAR HE	measured in mm	0 (8)			# Non-missing 1416 Mean 40.660 Median 41.000 Minimum 20.000 Maximum 77.000

Fort Bliss 89 - Anthropometric Codes
4D Filename - FB ANTHROPOMETR

Field Name	Description	Missing Values	Calculation	Format	Responses
AN N HT MPJ L		0 (8)	(AN NAVICULAR HE/10)/ AN MPJ FOOT LEN		# Non-missing 1416 Mean 0.210 Median 0.200 Minimum 0.100 Maximum 0.400
AN N HT FL L		0 (8)	(AN NAVICULAR HE/10)/ AN FOOT LENGTH		# Non-missing 1416 Mean 0.152 Median 0.150 Minimum 0.070 Maximum 0.310
AN FOOT TYPE		0 (10)			Value Frequency 1 328 2 748 3 299 4 37 5 2 0 10 Total 1424

Fort Bliss 1989 Codes
4D Filename - FB APRT

Field Name	Description	Missing Values	Calculation	Format	Responses
AP SUB NUM	Subject Number, Unique			Alpha10	
AP BRANCH		__ (1339)		Alpha7	Value Frequency 1339 ACT DTY 12 Total 1351
AP A NUM	Entered as 1 for all subjects.			Integer	Value Frequency 1 1351 Total 1351
AP LNAME				Alpha15	
AP FIRST NAME				Alpha15	
AP MI	Middle Initial	__ (688)		Alpha2	# Non-missing 664
AP SSN	Social Security Number			Alpha11 (###-##-####)	
AP SEX				Alpha4	Value Frequency MALE 1351 Total 1351
AP RACE		__ (1351)		Alpha6	Value Frequency 1351 Total 1351
AP AGE				Integer	# Non-missing 1055 Mean 19.007 Median 18.000 Minimum 17.000 Maximum 40.000

Field Name	Description	Missing Values	Calculation	Format	Responses
AP UNIT	Basic Training Unit			Alpha4	Value Frequency C1 254 D1A 206 D1B 255 D3 201 E1 226 E3 209 Total 1351
AP PLT	Platoon	0 (114)		Integer	Value Frequency 1 337 2 285 3 286 4 329 0 114 Total 1351
AP DATE START	Date Started Training C1 - (9/15/89) D1A - (7/21/89) D1B - (9/29/89) D3 - (8/4/89) E1 - (8/18/89) E3 - (9/1/89)			Date	Value Frequency 7/21/89 194 7/28/89 12 8/18/89 227 8/4/89 201 9/1/89 209 9/15/89 253 9/29/89 255 Total 1351

Fort Bliss 1989 Codes
4D Filename - FB APRT

Field Name	Description	Missing Values	Calculation	Format	Responses
AP PT DT1	Date of 1st PT test	00/00/00 (15)		Date	Value Frequency 10/2/89 254 7/24/89 193 7/31/89 12 8/21/89 226 8/7/89 201 9/18/89 243 9/4/89 207 00/00/00 15 Total 1351
AP DC1	Day of Cycle for 1st PT Test				Value Frequency .00 47 3.00 54 4.00 1250 Total 1351
AP PU1	# of push ups for 1st PT test	0 (120)		Integer	# Non-missing 1231 Mean 36.915 Median 35.000 Minimum 1.000 Maximum 93.000
AP PU SC1	score for push ups for 1st PT test	0 (1345)		Integer	# Non-missing 7 Mean 55.571 Median 61.000 Minimum 21.000 Maximum 85.000
AP SU1	# of sit ups for 1st PT test	0 (117)		Integer	# Non-missing 1234 Mean 50.136 Median 50.000 Minimum 3.000 Maximum 96.000

Field Name	Description	Missing Values	Calculation	Format	Responses
AP SU SC1	score for sit ups for 1st PT Test	0 (1345)		Integer	# Non-missing 7 Mean 56.857 Median 55.000 Minimum 41.000 Maximum 95.000
AP RUN MIN1	minutes portion of run time for 1st PT test	0 (121)		Integer	# Non-missing 1230 Mean 15.559 Median 15.000 Minimum 10.000 Maximum 34.000
AP RUN SEC1	seconds portion of run time for 1st PT Test	0 (168)		Integer	# Non-missing 1183 Mean 28.958 Median 30.000 Minimum 1.000 Maximum 60.000
AP RUN TM1	run time for 1st PT test	0 (121)	AP RUN MIN1+(AP RUN SEC1/60)	Real	# Non-missing 1230 Mean 16.024 Median 15.680 Minimum 10.650 Maximum 34.880
AP RUN SC1	run score for 1st PT test	0 (1343)		Integer	# Non-missing 8 Mean 61.875 Median 31.000 Minimum 4.000 Maximum 272.000
AP OVRL SC1	Overall score for 1st PT test	0 (1340)	AP PUSC1 + AP SU SC1 + AP RUN SC1	Integer	# Non-missing 11 Mean 116.545 Median 80.000 Minimum 4.000 Maximum 452.000
AP HT IN1	Height in Inches from 1st PT Test	0 (384)		Integer	# Non-missing 967 Mean 69.443 Median 69.000 Minimum 57.000 Maximum 108.000

Fort Bliss 1989 Codes
4D Filename - FB APRT

Field Name	Description	Missing Values	Calculation	Format	Responses
AP HT CM1	Height in CM from 1st PT test	0 (384)	AP HT IN1 * 2.54	Real	# Non-missing 967 Mean 176.384 Median 175.260 Minimum 144.780 Maximum 274.320
AP WT LB1	Weight in LB from 1st PT test	0 (410)		Integer	# Non-missing 941 Mean 161.676 Median 160.000 Minimum 66.000 Maximum 254.000
AP WT KG1	Weight in KG from 1st PT test	0 (410)	AP WT LB1/2.2	Real	# Non-missing 941 Mean 73.489 Median 72.727 Minimum 30.000 Maximum 115.450
AP BMI1 (kg/m^2)	Body Mass Index calculated for 1st PT test	0 (412)	AP WT KG1/((AP HT CM1 /100)^2)	Real	# Non-missing 939 Mean 23.643 Median 23.240 Minimum 3.990 Maximum 36.650
AP PT DT4	Date of 4th PT test	00/00/00 (138)		Date	Value Frequency 10/17/89 126 10/3/89 224 10/31/89 204 11/14/89 252 9/19/89 201 9/5/89 206 00/00/00 138 Total 1351

Field Name	Description	Missing Values	Calculation	Format	Responses
AP DC4	Day of Cycle for 4th PT Test	0 (138)		Integer	Value Frequency 39 1 40 8 46 53 47 1117 0 172 Total 1351
AP PU4	# of push ups for the 4th PT test	0 (181)		Integer	# Non-missing 1170 Mean 50.934 Median 49.500 Minimum 26.000 Maximum 102.000
AP PU SC4	score for push ups for 4th PT test	0 (1351)		Integer	# Non-missing 0
AP SU4	# sit ups for 4th PT test	0 (181)		Integer	# Non-missing 1170 Mean 62.799 Median 62.000 Minimum 29.000 Maximum 106.000
AP SU SC4	score for sit ups for 4th PT test	0 (1351)		Integer	# Non-missing 0
AP RUN MIN4	minutes portion of run time for 4th PT test	0 (195)		Integer	# Non-missing 1156 Mean 13.898 Median 14.000 Minimum 10.000 Maximum 29.000
AP RUN SEC4	seconds portion of run time for 4th PT test	0 (195)		Integer	# Non-missing 1156 Mean 29.787 Median 30.000 Minimum 1.000 Maximum 69.000
AP RUN TM4	run time for 4th PT test	0 (195)	AP RUN MIN4+(AP RUN SEC4/60)	Real	# Non-missing 1156 Mean 14.370 Median 14.330 Minimum 10.830 Maximum 29.200

Fort Bliss 1989 Codes
4D Filename - FB APRT

Field Name	Description	Missing Values	Calculation	Format	Responses
AP RUN SC4	run score for 4th PT Test	0 (1347)		Integer	# Non-missing 4 Mean 34.500 Median 35.000 Minimum 13.000 Maximum 55.000
AP OVRL SC4	Overall score for 4th PT test	0 (1347)	AP PU SC4 + AP SU SC4 + AP RUN SC4	Integer	# Non-missing 4 Mean 48.000 Median 47.500 Minimum 13.000 Maximum 84.000
AP HT IN4	Height in Inches from 4th PT Test	0 (735)		Integer	# Non-missing 616 Mean 69.518 Median 70.000 Minimum 57.000 Maximum 80.000
AP HT CM4	Height in CM from 4th PT test	0 (735)	AP HT IN4*2.54	Real	# Non-missing 616 Mean 176.575 Median 177.800 Minimum 144.780 Maximum 203.200
AP WT LB4	Weight in LB from 4th PT test	0 (794)		Integer	# Non-missing 557 Mean 159.442 Median 158.000 Minimum 110.000 Maximum 228.000
AP WT KG4	Weight in KG from 4th PT test	0 (794)	AP WT LB4/2.2	Real	# Non-missing 557 Mean 72.474 Median 71.818 Minimum 50.000 Maximum 103.640
AP BMI4 (kg/m^2)	Body Mass Index calculated for 4th PT test	0 (794)	AP WT KG4/((AP HT CM4 /100)^2)	Real	# Non-missing 557 Mean 23.210 Median 23.060 Minimum 17.686 Maximum 32.090

Field Name	Description	Missing Values	Calculation	Format	Responses
AP BRM SC	Basic Rifle Marksmanship Score	0 (1351)		Integer	Value Frequency 0 1351 Total 1351
AP BRM SL	Basic Rifle Marksmanship Skill Level			Alpha12	
AP RCYCL	Subject Recycled to another unit? Yes No	__ (57)		Alpha3	Value Frequency 57 no 1294 Total 1351
AP RC DATE	Recycle Date	00/00/00 (1351)		Date	# Non-missing 0
AP RC REASON	Reason subject was recycled			Alpha30	
AP DSCHRG	Subject Discharged? Yes No	__ (57)		Alpha3	Value Frequency 57 no 1294 Total 1351
AP DC DATE	Discharge Date	00/00/00 (1351)		Date	# Non-missing 0
AP DC REASON	Reason for discharge			Alpha30	
AP GRADUATION	Subject Graduated? Yes No	__ (57)		Alpha3	Value Frequency 57 yes 1294 Total 1351
AP GRAD DATE	Graduation Date	00/00/00 (1351)		Date	# Non-missing 0
AP NOTES				Alpha30	

Field Name	Description	Missing Values	Calculation	Format	Responses
AP TRAIN DUR	Training Duration	0 (1351)	if (AP RC DATE>=AP DT STRT, (AP RC DATE - AP DT STRT)+1, if AP DC DATE>=AP DT STRT, (AP DC DATE-AP DT STRT)+1, if AP GRAD DATE>=AP DT STRT, (AP GRAD DATE-AP DT STRT)+1,0)))	Integer	# Non-missing 0
AP SEX CODE	1=MALE 2=FEMALE	0 (0)	1	Integer	Value Frequency 1 1351 Total 1351
AP RACE CODE	1=White 2=Black 3=Hispanic 4=Asian 5=American Indian 6=Other 7=Unknown	0 (1351)	Case of : (AP RACE="ASIAN") 4 : (AP RACE="A_INDIAN") 5 : (AP RACE="BLACK") 2 : (AP RACE="HISPANIC" 3 : (AP RACE="OTHER") 6 : (AP RACE="UNKNOWN") 7 : (AP RACE="WHITE") 1 End case	Integer	Value Frequency 0 1351 Total 1351
AP UNIT CODE		0 (1351)		Integer	Value Frequency 0 1351 Total 1351

Field Name	Description	Missing Values	Calculation	Format	Responses
AP RECYCLE CODE	Subject Recycled to another unit? 1=Yes 2=No	0 (57)	Case of : (AP RCYCL="Yes") 1 : (AP RCYCL="No") 2 End case	Integer	Value Frequency 2 1294 0 57 ------- Total 1351
AP DSCH CODE	Subject Discharged? 1=Yes 2=No	0 (57)	Case of : (AP DSCHRG ="Yes") 1 : (AP DSCHRG ="No") 2 End case	Integer	Value Frequency 2 1294 0 57 ------- Total 1351
AP GRAD CODE	Subject Graduated? 1=Yes 2=No	0 (57)	Case of :(AP GRADUATION ="Yes") 1 :(AP GRADUATION ="No") 2 End case	Integer	Value Frequency 1 1294 0 57 ------- Total 1351

Fort Bliss '89 Injury Codes
4D Filename - FB Injury

Field Name	Description	Miss-ing	Calculation	Format	Responses
IN SUB NUM	Subject Number			Alpha10	
IN ACC NUM	Entered as 1 for everyone			Integer	Value Frequency 1 626 Total 626
IN LAST NAME				Alpha15	
IN FIRST NAME				Alpha12	
IN MI	Middle Initial			Alpha2	
IN SSN	Social Security Number			Alpha11	
IN SEX				Alpha6	Value Frequency MALE 626 Total 626
IN AGE				Integer	# Non-missing 626 Mean 19.166 Median 18.000 Minimum 17.000 Maximum 34.000

Fort Bliss '89 Injury Codes
4D Filename - FB Injury

Field Name	Description	Miss-ing	Calculation	Format	Responses
IN UNIT	Basic Training Unit	__ (0)		Alpha4	Value Frequency C1 137 C1B 2 C1B9 4 D1A 51 D1B 59 D1C 5 D1C8 2 D3 148 D3B 5 D3B7 10 D3C 1 E1 92 E3 110 ------- Total 626
IN PLATOON	Platoon	0 (626)		Integer	Value Frequency 0 626 ------- Total 626
IN ST DATE	Training start date			Date	Value Frequency 6/1/90 15 6/22/90 7 7/13/90 7 7/21/89 50 7/28/89 1 8/14/89 1 8/18/89 92 8/4/89 147 9/1/89 110 9/15/89 137 9/29/89 59 ------- Total 626

Fort Bliss '89 Injury Codes
4D Filename - FB Injury

Field Name	Description	Miss-ing	Calculation	Format	Responses
IN INJ DT	Date of injury			Date	# Non-missing 626 Minimum 3/5/89 Maximum 9/18/90
IN INJ DC	Day of Cycle on which injury occurred	0 (34)	if (IN INJ DT> IN ST DATE,(IN INJ DT- IN ST DATE)+1,0)	Integer	# Non-missing 592 Mean 25.470 Median 24.000 Minimum 1.000 Maximum 70.000
IN INJ DX	Diagnosis			Alpha25	
IN TYPE	Type of Injury	UNKNOWN (12)		Alpha10	Value Frequency ABRSN_LC 29 ACH_TND 1 BLISTER 33 BURSITIS 8 CONTSN 24 DISLOCN 3 FASCITIS 9 FRACTURE 26 OTHER 8 OTH_TND 5 OU_INJ 77 PAIN 124 SPRAIN 76 STRAIN 51 STRS_FX 70 STRS_RXN 50 TR_INJ 20 UNKNOWN 12 Total 626

Field Name	Description	Miss-ing	Calculation	Format	Responses
IN SD	Side of body on which injury occurred	UK (17)		Alpha2	Value Frequency BT 127 LF 218 NA 59 RT 205 UK 17 Total 626
IN PRT	Body part that was injured	UNKNOWN (3)		Alpha8	Value Frequency ABDMN 4 ANKLE 61 CALF 11 CHEST 9 ELBOW 2 FACE 4 FINGER 11 FOOT 145 HAND 18 HEAD 4 HIP 16 KNEE 112 LO_ARM 2 LO_BACK 47 NECK 5 OTHER 2 PELVIS 6 SHIN 77 SHLDR 18 THIGH 11 TOE 34 UNKNOWN 3 UP_ARM 3 UP_BACK 5 WRIST 16 Total 626

Fort Bliss '89 Injury Codes
4D Filename - FB Injury

Field Name	Description	Miss-ing	Calculation	Format	Responses
IN INJ VST	Follow up of earlier visit, or first visit for this injury, etc.	__ (47)		Alpha4	Value Frequency 47 FU M 6 FU S 31 NONE 22 OTHR 108 V1 M 48 V1 S 364 Total 626
IN DSP	Disposition	UNKN(17)		Alpha4	Value Frequency CNSL 8 FLUP 17 HOSP 2 LD 6 NLB 265 NONE 65 NOPT 36 NUB 47 OTHR 25 PTOP 23 RTD 115 UNKN 17 Total 626
IN INJ DL	Number of Days of restricted duty resulting from injury			Integer	# Non-missing 626 Mean 3.422 Median 3.000 Minimum 0.000 Maximum 42.000

Field Name	Description	Miss-ing	Calculation	Format	Responses
IN XR	X-Ray			Alpha3	Value Frequency ND 14 NEG 97 NO 489 POS 26 Total 626
IN XR IG	X-Ray Interpretation/Grade	UNKNOWN (7)		Alpha8	Value Frequency FX 15 NA 590 NONE 13 OTHER 1 UNKNOWN 7 Total 626
IN BS	Bone Scan			Alpha3	Value Frequency ND 3 NEG 6 NO 553 POS 64 Total 626
IN BS GRD	Bone Scan Grade	UK (11)		Alpha2	Value Frequency 1 6 2 30 3 10 4 8 NA 561 UK 11 Total 626

Fort Bliss '89 Injury Codes
4D Filename - FB Injury

Field Name	Description	Miss-ing	Calculation	Format	Responses
IN TP CD	Code for IN Type 1=Stress Fracture 2=Stress Reaction 3=Achilles Tendonitis 4=Other Tendonitis 5=Bursitis 6=Fascitis 7=Overuse injury 9=Pain 8=Traumatic injury 10=Strain 11=Sprain 12=Dislocation 13=Fracture 14=Blister 15=Abrasion/Laceration 16=Contusion 17=Other 18=Unknown 19=None	18 (12)	Case of :(IN Type="STRS_FX") 1 :(IN Type="STRS_RXN") 2 :(IN Type="ACH_TND") 3 :(IN Type="OTH_TND") 4 :(IN Type="BURSITIS") 5 :(IN Type="FASCITIS") 6 :(IN Type="OU_INJ") 7 :(IN Type="PAIN") 9 :(IN Type="TR_INJ") 8 :(IN Type="STRAIN") 10 :(IN Type="SPRAIN") 11 :(IN Type="DISLOCN") 12 :(IN Type="FRACTURE") 13 :(IN Type="BLISTER") 14 :(IN Type="ABRSN_LC") 15 :(IN Type="CONTSN") 16 :(IN Type="OTHER") 17 :(IN Type="UNKNOWN") 18 :(IN Type="NONE") 19 End Case	Integer	Value Frequency 1 70 2 50 3 1 4 5 5 8 6 9 7 77 8 20 9 124 10 51 11 76 12 3 13 26 14 33 15 29 16 24 17 8 18 12 Total 626
IN SD CD	Code for IN SD 1 = Right 2 = Left 3 = Both 4 = Not Applicable 5 = Unknown 6 = None	5 (17)	Case of :(IN SD="RT") 1 :(IN SD="LF") 2 :(IN SD="BT") 3 :(IN SD="NA") 4 :(IN SD="UK") 5 :(IN SD="NO") 6 End Case	Integer	Value Frequency 1 205 2 218 3 127 4 59 5 17 Total 626

Fort Bliss '89 Injury Codes
4D Filename - FB Injury

Field Name	Description	Miss-ing	Calculation	Format	Responses
IN PRT CD	Code for IN Body Part 1=Head 2=Face 3=Neck 4=Chest 5=Abdomen 6=Upper back 7=Shoulder 8=Upper Arm 9=Elbow 10=Lower Arm 11=Wrist 12=Hand 13=Finger 14=Lower Back 15=Pelvis 16=Hip 17=Thigh 18=Knee 19=Calf 20=Shin 21=Ankle 22=Foot 23=Toe 24=Other 25=Unknown 26=None	25 (3)	Case of :(IN Body Part="HEAD") 1 :(IN Body Part="FACE") 2 :(IN Body Part="NECK") 3 :(IN Body Part="CHEST") 4 :(IN Body Part="ABDMN") 5 :(IN Body Part="UP_BACK") 6 :(IN Body Part="SHLDR") 7 :(IN Body Part="UP_ARM") 8 :(IN Body Part="ELBOW") 9 :(IN Body Part="LO_ARM") 10 :(IN Body Part="WRIST") 11 :(IN Body Part="HAND") 12 :(IN Body Part="FINGER) 13 :(IN Body Part="LO_BACK") 14 :(IN Body Part="PELVIS") 15 :(IN Body Part="HIP") 16 :(IN Body Part="THIGH") 17 :(IN Body Part="KNEE") 18 :(IN Body Part="CALF") 19 :(IN Body Part="SHIN") 20 :(IN Body Part="ANKLE") 21 :(IN Body Part="FOOT") 22 :(IN Body Part="TOE") 23 :(IN Body Part="OTHER") 24 :(IN Body Part="UNKNOWN") 25 :(IN Body Part="NONE") 26 End Case	Integer	Value Frequency 1 4 2 4 3 5 4 9 5 4 6 5 7 18 8 3 9 2 10 2 11 16 12 18 13 11 14 47 15 6 16 16 17 11 18 112 19 11 20 77 21 61 22 145 23 34 24 2 25 3 Total 626

Fort Bliss '89 Injury Codes
4D Filename - FB Injury

Field Name	Description	Miss-ing	Calculation	Format	Responses
IN VST CD	Code for IN INJ VST 1=V1 S 2=V1 M 3=FU S 4=FU M 5=OTHR 7=NONE 0=Missing	0 (47)		Integer	Value Frequency 1 364 2 48 3 31 4 6 5 108 7 22 0 47 ------- Total 626
IN DSP CD	Code for IN Disp 1=Return to duty 2=Light Duty 3=PT own pace 4=No upper body 5=No lower body 6=No PT 7=Hospital 8=Consult 9=Other 10=Unknown 11=None 12=Follow Up	10 (17)	Case of :(IN Disp="RTD") 1 :(IN Disp="LD") 2 :(IN Disp="PTOP") 3 :(IN Disp="NUB") 4 :(IN Disp="NLB") 5 :(IN Disp="NOPT") 6 :(IN Disp="HOSP") 7 :(IN Disp="CNSL") 8 :(IN Disp="OTHR") 9 :(IN Disp="UNKN") 10 :(IN Disp="NONE") 11 :(IN Disp="FLUP") 12 End Case	Integer	Value Frequency 1 115 2 6 3 23 4 47 5 265 6 36 7 2 8 8 9 25 10 17 11 65 12 17 ------- Total 626
IN XR CD	X-Ray Code 1 = POS(Positive) 2 = NEG(Negative) 3 = ND(Not Determined) 4 = NA(Not Applicable) 5 = NO(None)			Integer	Value Frequency 1 26 2 97 3 14 5 489 ------- Total 626

Fort Bliss '89 Injury Codes
4D Filename - FB Injury

Field Name	Description	Miss-ing	Calculation	Format	Responses
IN XR IG CD	X-Ray Interpretation/Grade Code 1 = Cort Tn(Cortical Tunneling) 2 = NB Form(New bone formation) 3 = FX(Fractures) 4 = 1+FX 5 = 2+FX 6 = 1,2+FX 7 = Choice 1 8 = Choice 2 9 = NA 10 = Other 11 = Unknown 12 = None	11 (7)		Integer	Value Frequency 3 15 9 590 10 1 11 7 12 13 ------ Total 626
IN BS CD	Bone Scan Code 1 = POS(Positive) 2 = NEG(Negative) 3 = ND(Not Determined) 4 = NA(Not Applicable) 5 = NO(None)			Integer	Value Frequency 1 64 2 6 3 3 5 553 ------ Total 626
IN BS GR CD	Bone Scan Grade Code 1 = 1 2 = 2 3 = 3 4 = 4 5 = 5 6 = 6 7 = 0 8 = NA(Not Applicable) 9 = OT(Other) 10 = UK(Unknown)	10 (11)		Integer	Value Frequency 1 6 2 30 3 10 4 8 8 561 10 11 ------ Total 626

ADDITIONAL CODING NOTATIONS OF INJURY VARIABLES IN THE FORT BLISS/JACKSON DATABASE

Coding of injury type based on injury diagnosis

INJ DX LISTS:	INJ TYPE CODED AS:	NOTES
ganglion cyst	OUS/NOS	
ingrown toenail	OUS/NOS	
shin splints	OUS/NOS	
PFS (patella femoral syndrome)	OUS/NOS	
paronychia/onychogryphosis	OUS/NOS	
RPPS	OUS/NOS	overuse of the knee
exercise-related injury	OUS/NOS	
pain/overuse	OUS/NOS	use the more specific response
corns/bunions (foot problem)	PAIN	these are painful foot problems
numbness	PAIN	
loss of feeling	PAIN	
spasm (only)	PAIN	spasm is listed by itself
CWP (chest wall pain)	PAIN	
chest muscular pain	PAIN	
chest pain/tenderness	PAIN	assume to be muscular pain
spasm/strain	STRAIN	
muscle/tendon	STRAIN	
pulled muscle	STRAIN	
muscle tear	STRAIN	
trauma/joint	SPRAIN	
hyperextension	SPRAIN	
ligament/MCL (ligament)	SPRAIN	
twisted	SPRAIN	
trauma/non-joint	CONTUSION	
soft/deep tissue injury	CONTUSION	
splinter	ABRSN_LC	consider this a type of laceration
rope burn	ABRSN_LC	consider this a type of abrasion
injury listed as diagnosis	ACT_TR/NOS	
callouses	OTHER	record as PAIN if mentioned in DX
costochondritis	OTHER	
xray/bone scan entry only	UNKNOWN	no info is given regarding inj type

****special consideration to coding changes as follows:**

****if diagnosis entry is incomplete and only mentions a body part, then add "injury" to DX entry and code injury type as: UNKNOWN...**(ex...diagnosis only lists "hand", change to "hand injury" and code this as injury type=UNKNOWN)

****if injury type is not given in the diagnosis or injury type=?, code type as: UNKNOWN**

****if diagnosis lists "blister" and "cellulitis", move this entry to the illness file and code as a bacterial infection for illness type**

ADDITIONAL CODING NOTATIONS OF INJURY VARIABLES IN THE FORT BLISS/JACKSON DATABASE

Recoding injury type to a downgrade

INJ DX LISTS:	INJ TYPE CODED AS:	NOTES
R/O FX	ACT_TR/NOS	Xray results are not mentioned
R/O STRS_FX	STRS_RXN	Xray results are not mentioned
R/O STRS_RXN/PAIN	PAIN	w/o Xray results, code as PAIN
R/O STRS_RXN	OUS/NOS	Xrays/"pain" are not mentioned
R/O OUS (overuse)	PAIN	applies if "pain" listed/not listed

Coding of body part side if side is not mentioned

INJ PART LISTS:	INJ SIDE CODED AS:	NOTES
LO_BACK/UP_BACK	N/A	
CHEST or ABDOMEN	N/A	

Recoding of body part

INJ PART LISTS:	INJ PART CODED AS:	NOTES
groin	PELVIS	
tailbone/coccyx	PELVIS	
buttocks	LO_BACK	low back usually includes buttocks
wrist	LO_ARM	
tibia (inner leg)	SHIN or CALF	medial=CALF; distal=ANKLE
fibula (outer leg)	CALF	medial=CALF; distal=ANKLE
leg (not specific)	CALF	

****special consideration to coding changes as follows:**
****injury diagnosis lists multiple body parts...try to choose the most appropriate part, otherwise; code body part as OTHER**

Coding of appropriate body part in relation to injury diagnosis

INJ DX LISTS:	INJ PART CODED AS:	NOTES
shin splints	CALF or SHIN	
achilles tendonitis	FOOT	

ADDITIONAL CODING NOTATIONS OF INJURY VARIABLES IN THE FORT BLISS/JACKSON DATABASE

Coding of injury dispositions

INJ DISP LISTS:	INJ DISP CODED AS:	NOTES
RTC/PRN	RTD	return to clinic as needed
TL-2	NLB	
TU-2	NUB	
PROFILE	NOPT, NLB, or NUB	code dependent upon dx+body part
CODEC	OTHER	
"crutches"	OTHER	
"soft shoe"	NLB	

Coding days lost/disposition in conjunction with each other (based on med rec reviews)

INJ DISP/DL LISTS:	INJ DISP/DL CODED AS:	NOTES
disp=RTD, dl=# (>0)	NUB/NLB with dl=# (>0)	disp depends on dx + body part
disp=NLB/NUB/NOPT, dl=? or dl=0	NLB/NUB/NOPT with dl=1	
disp=xxx, dl>1	disp=xxx, dl=2	
disp=0, dl=0	disp=RTD, dl=0	
disp/dl=blank, dx="follow-up"	disp=FLUP, dl=0	
disp=blank, dl=0 or dl=blank	disp=RTD, dl=0	
disp=blank and dl=# (>0)	disp=UNKN with dl=# (>0)	

****special consideration to coding changes as follows:**

****injury diagnosis is listed as xray/bone scan entry only and no disposition or days lost is given, code disp = NONE and DL = 0**

****injury diagnosis lists xray/bone scan results only and no disposition or days lost is given, add these results to a previous injury entry, if applicable, otherwise; code as above**

****FOR OVERLAPPING DAYS LOST:**

(1) If second visit has disp=FLUP, and there is a balance of days lost from previous visit, (overlapping days) then continue profile with remainder of days lost.

(2) If second visit has disp=RTD and dl=0, then profile is stopped and days lost is then reduced from previous visit (so that number of days dispensed does not extend past second visit).

(3) If initial disp=NUB for first visit with days dispensed and second visit has a disp=NLB with days dispensed, then both profiles can exist without changing overlapping days lost from first visit.

ADDITIONAL CODING NOTATIONS OF INJURY VARIABLES IN THE FORT BLISS/JACKSON DATABASE

Coding of bone scan and xray results (including interpretation grade (IG) for Fort Bliss)

XRAY/BONE SCAN RESULTS:	XRAY/BS IG CODED AS:	NOTES
if XRAY=NO	XRAY IG=NA	
if XRAY=NEG	XRAY IG=NA	
if BONE SCAN=NO	BONE SCAN IG=NA	
if BONE SCAN=NEG	BONE SCAN IF=NA	

****special consideration to coding changes as follows:**
****if there is no record of a bone scan/xray being performed, then code XR/BS=NO under results**
****Note: xray results could be positive with IG=NONE, so use IG=NA when xray is negative**

Recoding of injury types into overuse and traumatic categories

OVERUSE CATEGORY:	TRAUMATIC CATEGORY:
STRS_FX (stress fracture)	FX (fracture)
STRS_RXN (stress reaction)	DISLOCN (dislocation)
ACH_TNDNTS (achilles tendinitis)	SPRAIN
OTH_TNDNTS (other tendinitis)	STRAIN
BURSITIS	CONTSN (contusion)
FASCITIS	ABRSN_LC (abrasion/laceration)
PAIN	BLISTER
OUS/NOS (overuse/not specified)	ACT_TR/NOS (acute trauma/not specified)

SPECIAL NOTE: If any injury entry cannot be located in the medical record review abstracts, or verified elsewhere, then insert a double asterisk (**) at the beginning of the injury diagnosis text field

---

Fort Bliss '89 Illness Codes
4D Filename - FB ILLNESS

Field Name	Description	Missing Values	Calculation	Format	Responses
IL SUB NUM	Subject Number			Alpha10	
IL ACC NUM	Entered as 1 for everyone			Integer	Value Frequency 1 362 Total 362
IL LAST NAME				Alpha15	
IL FIRST NAME				Alpha12	
IL MI	Middle Initial	__ (345)		Alpha2	# Non-missing 17
IL SSN	Social Security Number	__ (325)		Alpha11	# Non-missing 37
IL SEX				Alpha6	Value Frequency MALE 362 Total 362
IL RACE		__ (362)		Alpha8	Value Frequency 362 Total 362
IL AGE		0 (342)		Integer	Value Frequency 18 5 19 8 20 3 21 1 22 1 25 2 0 342 Total 362

Fort Bliss '89 Illness Codes
4D Filename - FB ILLNESS

Field Name	Description	Missing Values	Calculation	Format	Responses
IL UNIT	Basic Training Unit			Alpha4	Value Frequency C1 102 C1B 1 D1A 30 D1B 42 D1C 3 D1C8 1 D3 82 D3B7 2 E1 48 E3 51 Total 362
IL PLATOON	Platoon	0 (362)		Integer	Value Frequency 0 362 Total 362
IL ST DATE	Training start date			Date	# Non-missing 362 Minimum 7/21/89 Maximum 7/13/90
IL ILL DT	Date of illness			Date	# Non-missing 362 Minimum 7/17/89 Maximum 7/24/90
IL ILL DC	Day of Cycle on which illness occurred	0 (38)	if (IL ILL DT>=IL ST DATE, (IL ILL DT-IL ST DATE)+1,0)	Integer	# Non-missing 324 Mean 27.102 Median 28.000 Minimum 1.000 Maximum 60.000
IL DX	Diagnosis			Alpha25	
IL TEMP	Temperature	0 (124)		Real	# Non-missing 238 Mean 98.672 Median 98.800 Minimum 94.000 Maximum 102.800

Fort Bliss '89 Illness Codes
4D Filename - FB ILLNESS

Field Name	Description	Missing Values	Calculation	Format	Responses
IL ILL TP	Type of Illness	16 (4)		Alpha8	Value Frequency ALLRG 16 ARRYTH 1 BACT 77 BITE 6 ENVRN 1 HEAT 1 INFLAM 22 NONE 2 NS_RASH 36 OTHER 58 UNKNOWN 4 UNK_INF 24 VIRAL 114 Total 362

Fort Bliss '89 Illness Codes
4D Filename - FB ILLNESS

Field Name	Description	Missing Values	Calculation	Format	Responses
IL SYS	System affected by illness.	UNKN (8)		Alpha8	Value Frequency BTH_GI 8 CNS 6 DERM 64 EARS 6 ENDCR 1 EYES 15 GENTL 7 HEART 3 LO_GI 17 LO_RESP 8 NONE 2 OTHER 20 PSYCH 7 STD 4 UNKNOWN 8 UP_GI 13 UP_RESP 169 URN_TR 4 Total 362
IL VST	Follow Up of earlier visit, or first visit for this illness.	__ (44)		Alpha4	Value Frequency 44 FU M 2 FU S 14 NONE 63 OTHR 31 V1 M 11 V1 S 197 Total 362

Fort Bliss '89 Illness Codes
4D Filename - FB ILLNESS

Field Name	Description	Missing Values	Calculation	Format	Responses
IL DSP	Disposition	UNKN (16)		Alpha4	Value Frequency CNSL 13 HOSP 35 LD 8 NONE 27 NOPT 23 OTHR 13 PTOP 3 QRTR 13 RTD 211 UNKN 16 Total 362
IL ILL DL	Number of Days of restricted duty resulting from illness			Integer	Value Frequency 1 24 2 26 3 24 4 9 5 2 7 2 10 3 15 1 0 271 Total 362

Fort Bliss '89 Illness Codes
4D Filename - FB ILLNESS

Field Name	Description	Missing Values	Calculation	Format	Responses
IL TYPE CD	Code for IL Type 1=Viral Illness 2=Bacterial Illness 3=Unknown Infection 4=Inflammation 5=Non-Specific Rash 6=Immunological 7=Allergy 8=Arrythmia 9=Cardiovascular-other 10=Blood 11=Cold 12=Heat 13=Environmental 14=Bite 15=Other 16=Unknown 17=None	16 (4)	Case of :(IL ILL TP="VIRAL") 1 :(IL ILL TP="BACT") 2 :(IL ILL TP="UNK_INF") 3 :(IL ILL TP="INFLAM") 4 :(IL ILL TP="NS_RASH" 5 :(IL ILL TP="IMMN") 6 :(IL ILL TP="ALLRG" 7 :(IL ILL TP="ARRYTH") 8 :(IL ILL TP="CV_OTHER") 9 :(IL ILL TP="BLOOD") 10 :(IL ILL TP="COLD") 11 :(IL ILL TP="HEAT") 12 :(IL ILL TP="ENVRN") 13 :(IL ILL TP="BITE") 14 :(IL ILL TP="OTHER") 15 :(IL ILL TP="UNKNOWN") 16 :(IL ILL TP="NONE") 17 End Case	Integer	Value Frequency 1 114 2 77 3 24 4 22 5 36 7 16 8 1 12 1 13 1 14 6 15 58 16 4 17 2 Total 362

Fort Bliss '89 Illness Codes
4D Filename - FB ILLNESS

Field Name	Description	Missing Values	Calculation	Format	Responses
IL SYS CD	Code for IL System 1=Upper Respiratory 2=Lower Respiratory 3=Upper Gastrointestinal 4=Lower Gastrointestinal 5=Both Gastrointestinal 6=Urinary Tract 7=Genital/Reproductive 8=Sexually Transmitted Disease 9=Dermatology 10=Heart 11=Circulatory/ Vascular 12=Central Nervous System 13=Eyes 14=Ears 15=Psychological 16=Endocrine 17=Other 18=Unknown 19=None	18 (8)	Case of :(IL SYS="UP_RESP") 1 :(IL SYS="LO_RESP") 2 :(IL SYS="UP_GI") 3 :(IL SYS="LO_GI") 4 :(IL SYS="BTH_GI") 5 :(IL SYS="URN_TR") 6 :(IL SYS="GENTL") 7 :(IL SYS="STD") 8 :(IL SYS="DERM") 9 :(IL SYS="HEART") 10 :(IL SYS="CIRC") 11 :(IL SYS="CNS") 12 :(IL SYS="EYES") 13 :(IL SYS="EARS") 14 :(IL SYS="PSYCH") 15 :(IL SYS="ENDCR") 16 :(IL SYS="OTHER") 17 :(IL SYS="UNKNOWN") 18 :(IL SYS="NONE") 19 End Case	Integer	Value Frequency 1 169 2 8 3 13 4 17 5 8 6 4 7 7 8 4 9 64 10 3 12 6 13 15 14 6 15 7 16 1 17 20 18 8 19 2 ------- Total 362
IL VST CD	1=V1 S 2=V1 M 3=FU S 4=FU M 5=OTHR 6=UNKN 7=NONE	0 (44)			Value Frequency 0 44 1 197 2 11 3 14 4 2 5 31 7 63 ------- Total 362

Fort Bliss '89 Illness Codes
4D Filename - FB ILLNESS

Field Name	Description	Missing Values	Calculation	Format	Responses
IL DISP CD	Code for IL Disp 1=Return to duty 2=Light Duty 3=PT own pace 4=No PT 5=Quarters 6=Hospital 7=Consult 8=Other 9=Unknown 10=None	9 (16)	Case of :(IL DSP="RTD") 1 :(IL DSP="LD") 2 :(IL DSP="PTOP") 3 :(IL DSP="NOPT") 4 :(IL DSP="QRTR") 5 :(IL DSP="HOSP") 6 :(IL DSP="CNSL") 7 :(IL DSP="OTHR") 8 :(IL DSP="UNKN") 9 :(IL DSP="NONE") 10 End Case	Integer	Value Frequency 1 211 2 8 3 3 4 23 5 13 6 35 7 13 8 13 9 16 10 27 ------- Total 362

ADDITIONAL CODING NOTATIONS OF ILLNESS VARIABLES IN THE FORT BLISS/JACKSON DATABASE

Coding of illness type and illness system based on illness diagnosis

ILL DX LISTS:	ILL TYPE CODED AS:	ILL SYSTEM CODED AS:	NOTES
smallpox problem	ALLRG	OTHER	
immunization reaction	ALLRG	OTHER	
allergy reaction	ALLRG	OTHER	
asthma	ALLRG	LO_RESP	
dysuria	BACT	STD	
sinusitis	BACT	UP_RESP	
pneumonia	BACT	LO_RESP	
strep throat	BACT	UP_RESP	
sunburn	ENVRN	DERM	
epididymitis	INFLAM	GENTL	
gastritis	INFLAM	UP_GI	
nausea	INFLAM	UP_GI	
vomiting	INFLAM	UP_GI	
abdominal pain/vomiting	INFLAM	UP_GI	
acne	INFLAM	DERM	
tinea/fungus	NS_RASH	DERM	
PFB (pseudofollicular)	NS_RASH	DERM	
diarrhea	UNK_INF	LO_GI	
bronchitis	UNK_INF	UP_RESP	
conjunctivitis	UNK_INF	EYES	**[1]
gastroenteritis	UNK_INF	BTH_GI	
chest congestion	VIRAL	LO_RESP	
nasal/sinus congestion	VIRAL	UP_RESP	
r/o pneumonia	VIRAL	LO_RESP	
URI	VIRAL	UP_RESP	
acute respiratory disease	VIRAL	UP_RESP	
sorethroat	VIRAL	UP_RESP	
pharyngitis	VIRAL	UP_RESP	

****special consideration to coding changes as follows:**
****[1] if diagnosis entry for conjunctivitis specifies bacterial or viral, then code accordingly as BACT or VIRAL instead of UNK_INF**

ADDITIONAL CODING NOTATIONS OF ILLNESS VARIABLES IN THE FORT BLISS/JACKSON DATABASE

Recoding illness entries for prescription refills, lab tests, xrays, and exams

ILL DX LISTS:	ILL TYPE CODED AS:	ILL SYSTEM CODED AS:	DISP	NOTES
rx refills	OTHER	OTHER	NONE	
rx refill inhalers	OTHER	LO_RESP	NONE	**[1]
acne meds	INFLAM	DERM	RTD	**[2]
lab work	OTHER	UNKNOWN	NONE	
urine/blood work result	OTHER	URN_TR	NONE	**[3]
lab/tr bld occult/nsu /antibiotics	BACT	URN_TR	RTD	**[4]
chest xray	OTHER	UNKNOWN	NONE	
sinusitis xray report	BACT	UP_RESP	RTD	**[5]
eye exam	OTHER	EYES	NONE	

****special consideration to coding changes as follows:**

****[1] if it can be determined what the prescription is for, then code the system accordingly and disposition remains as NONE**

****[2] if a partial diagnosis is given, or clarifies what the prescription is for, then code the type and system accordingly, and code the disposition as RTD**

****[3] if it can be determined what the lab work is for, then code the system accordingly and disposition remains as NONE**

****[4] if a partial diagnosis is given, or clarifies what the lab work is for, then code the type and system accordingly, and code the disposition as RTD**

****[5] if a partial diagnosis is given, or clarifies what the xray is for, then code the type and system accordingly, and code the disposition as RTD**

Coding of illness disposition and days lost

ILL DISP LISTS:	ILL DISP CODED AS:	ILL DL CODED AS:	NOTES
PFB/shaving profile with dl=10	RTD	dl=0	**[1]
bed rest with dl=#	QRTR	dl=#	
no profile	NONE	dl=0	

****special consideration to coding changes as follows:**

****[1] the shaving profile does not interfere with the basic training schedule, so disposition is coded as RTD with dl=0**

ADDITIONAL CODING NOTATIONS OF ILLNESS VARIABLES IN THE FORT BLISS/JACKSON DATABASE

Coding days lost/disposition in conjunction with each other (based on med rec reviews)

ILL DISP/DL LISTS:	ILL DISP/DL CODED AS:	NOTES
disp=RTD, dl=# (>0) + system	LD/PTOP with dl=# (>0)	choosing disp depends on dx + type
disp=0, dl=0	disp=RTD with dl=0	
disp=blank, dl=0 or dl=blank	disp=RTD with dl=0	
disp=blank and dl=# (>0)	disp=UNKN with dl=# (>0)	

****special consideration to coding changes as follows:**

****illness diagnosis is listed as xray entry only and no disposition or days lost is given, code disposition as NONE and dl = 0**

****illness diagnosis lists xray results only and no disposition or days lost is given, but there is a previous diagnosis entry, then add these results to the previous illness entry, if applicable, otherwise; code as above**

SPECIAL NOTE: If any illness entry cannot be located in the medical record review abstracts, or verified elsewhere, then insert a double asterisk (**) at the beginning of the illness diagnosis text field

---

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Sub Num	Subject Number, unique			Alpha10	
Q Last Name		I		Alpha15	
Q SSN	Social Security Number	I		Alpha11	
Q Age		I	0 (0)	Integer	# Non-missing 1364 Mean 19.039 Median 18.000 Minimum 17.000 Maximum 40.000
Q HT IN	Integer portion of height in inches	I	0 (2)	Integer	# Non-missing 1362 Mean 69.470 Median 69.000 Minimum 60.000 Maximum 80.000
Q HTQ	Quarter Inch portion of height 0=0 inches 1=1/4 inches 2=1/2 inches 3=3/4 inches	I	0 (745)	Integer	Value Frequency 1 154 2 340 3 125 0 745 Total 1364
Q WT	Weight in pounds	I	0 (3)	Integer	# Non-missing 1361 Mean 162.672 Median 160.000 Minimum 106.000 Maximum 250.000
Q Unit	Basic Training Unit 1=D1A (Company 1) 2=D3 (Company 2) 3=E1 (Company 3) 4=E3 (Company 4) 5=C1 (Company 5) 6=D1B (Company 6)	I	0 (0)	Integer	Value Frequency 1 215 2 298 3 224 4 214 5 251 6 262 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Day	Day on which questionnaire was filled out	I	0 (0)	Integer	# Non-missing 1364 Mean 18.948 Median 19.000 Minimum 2.000 Maximum 30.000
Q Month	Month during which questionnaire was filled out	I		Integer	Value Frequency 7 421 8 436 9 507 Total 1364
Q Year	Year during which questionnaire was filled out 9 = 1989	I		Integer	Value Frequency 9 1364 Total 1364
Q Sex	1=male 2=female	I	0 (0)	Integer	Value Frequency 1 1364 Total 1364
Q Phys Act	In regards to your overall physical activity how would you describe your life compared to others of your age and sex? 1=very inactive 2=somewhat inactive 3=average 4=active 5=very active	II 1	0 (1)	Integer	Value Frequency 1 13 2 78 3 474 4 550 5 248 0 1 Total 1364
Q Phys Fit	Compared to others of your age and sex, how would you rate your physical fitness? 1=poor 2=below avg 3=average 4=above avg 5=excellent	II 2	0 (5)	Integer	Value Frequency 1 7 2 128 3 707 4 441 5 76 0 5 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q JobAct	What level of activity describes your most recent job prior to this tour? 1=sedentary 2=light work 3=medium work 4=heavy work 5=very heavy work	II 3	0 (5)	Integer	Value Frequency 1 135 2 433 3 457 4 234 5 100 0 5 Total 1364
Q Pastinj	Have you ever suffered an injury or accident that resulted in your missing work or school? 1=yes 2=no	III 1	0 (7)	Integer	Value Frequency 1 559 2 798 0 7 Total 1364
Q Yr1Inj	Year of first injury that caused lost days. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 1	0 (811)	Integer	Value Frequency 1 153 2 54 3 49 4 78 5 121 6 98 0 811 Total 1364
Q Yr2Inj	Year of second injury that caused lost days. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 1	0 (1222)	Integer	Value Frequency 1 40 2 19 3 15 4 31 5 26 6 11 0 1222 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Type1Inj	Type of first injury that caused lost days. 1=Fx lower extremity 2=Fx upper extremity 3=Fx hand 4=Fx Axial Spine 5=Other Fx 6=Torn Cartilage, Knee 7=Sprain, trauma Lower Ext 8=Sprain, trauma Upper Ext 9=Pulled muscle Lower Ext 10=Pulled muscle Upper Ext 11=Back or neck pain 12=Stress Fx 13=Lacerations 14=Contusions, bruises 15=Head injuries 16=Eye injuries 17=Internal Abdomen inj 18=Internal Chest inj 21=Other	III 1	0 (815)	Integer	Value Frequency 1 66 2 54 3 46 4 2 5 8 6 6 7 133 8 20 9 5 10 11 11 29 12 5 13 39 14 5 15 19 16 3 17 9 18 1 21 88 0 815 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Typ2Inj	Type of second injury that caused lost days. 1=Fx lower extremity 2=Fx upper extremity 3=Fx hand 4=Fx Axial Spine 5=Other Fx 6=Torn Cartilage, Knee 7=Sprain, trauma Lower Ext 8=Sprain, trauma Upper Ext 9=Pulled muscle Lower Ext 10=Pulled muscle Upper Ext 11=Back or neck pain 12=Stress Fx 13=Lacerations 14=Contusions, bruises 15=Head injuries 16=Eye injuries 17=Internal Abdomen inj 18=Internal Chest inj 21=Other	III 1	0 (1214)	Integer	Value Frequency 1 12 2 17 3 14 4 4 5 2 7 41 8 7 9 2 10 3 11 4 12 4 13 11 14 2 15 4 16 1 21 22 0 1214 Total 1364
Q Surgery	Have you ever had an injury(s) or accident(s) that required surgery to repair the damage? 1=yes 2=no	III 2	0 (8)	Integer	Value Frequency 1 298 2 1058 0 8 Total 1364
Q Yr1Srgry	Year of first surgery injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 2	0 (1076)	Integer	Value Frequency 1 139 2 27 3 19 4 39 5 36 6 28 0 1076 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Yr2Srgy	Year of second surgery injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 2	0 (1321)	Integer	Value Frequency 1 25 2 4 3 4 4 6 5 1 6 3 0 1321 Total 1364
Q Type1Srgry	Type of first surgery injury. 1=Fx lower extremity 2=Fx upper extremity 3=Fx hand 4=Fx Axial Spine 5=Other Fx 6=Torn Cartilage, Knee 7=Sprain, trauma Lower Ext 8=Sprain, trauma Upper Ext 9=Pulled muscle Lower Ext 10=Pulled muscle Upper Ext 11=Back or neck pain 12=Stress Fx 13=Lacerations 14=Contusions, bruises 15=Head injuries 16=Eye injuries 17=Internal Abdomen inj 18=Internal Chest inj 21=Other	III 2	0 (1074)	Integer	Value Frequency 1 15 2 16 3 9 4 3 5 10 6 5 7 25 8 9 11 1 13 108 15 6 16 3 17 8 18 2 21 70 0 1074 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Type2Srgry	Type of second surgery injury. 1=Fx lower extremity 2=Fx upper extremity 3=Fx hand 4=Fx Axial Spine 5=Other Fx 6=Torn Cartilage, Knee 7=Sprain, trauma Lower Ext 8=Sprain, trauma Upper Ext 9=Pulled muscle Lower Ext 10=Pulled muscle Upper Ext 11=Back or neck pain 12=Stress Fx 13=Lacerations 14=Contusions, bruises 15=Head injuries 16=Eye injuries 17=Internal Abdomen inj 18=Internal Chest inj 21=Other	III 2	0 (1319)	Integer	Value Frequency 1 2 2 1 3 4 5 3 7 4 8 1 11 1 13 22 16 1 21 6 0 1319 Total 1364
Q HospInj	Have you ever had an accident(s) or injury(s) that caused you to be in the hospital overnight? 1=yes 2=no	III 3	0 (14)	Integer	Value Frequency 1 219 2 1131 0 14 Total 1364
Q Yr1Hosp	Year of first hospital injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 3	0 (1155)	Integer	Value Frequency 1 116 2 23 3 17 4 24 5 20 6 9 0 1155 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Yr2Hosp	Year of second hospital injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 3	0 (1339)	Integer	Value Frequency 1 11 2 7 3 2 4 2 6 3 0 1339 Total 1364
Q Typ1Hosp	Type of first hospital injury. 1=Fx lower extremity 2=Fx upper extremity 3=Fx hand 4=Fx Axial Spine 5=Other Fx 6=Torn Cartilage, Knee 7=Sprain, trauma Lower Ext 8=Sprain, trauma Upper Ext 9=Pulled muscle Lower Ext 10=Pulled muscle Upper Ext 11=Back or neck pain 12=Stress Fx 13=Lacerations 14=Contusions, bruises 15=Head injuries 16=Eye injuries 17=Internal Abdomen inj 18=Internal Chest inj 21=Other	III 3	0 (1150)	Integer	Value Frequency 1 21 2 20 3 6 4 2 5 5 6 2 7 11 8 4 9 1 10 2 11 3 13 28 15 26 16 6 17 12 18 5 21 60 0 1150 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Typ2Hosp	Type of second hospital injury. 1=Fx lower extremity 2=Fx upper extremity 3=Fx hand 4=Fx Axial Spine 5=Other Fx 6=Torn Cartilage, Knee 7=Sprain, trauma Lower Ext 8=Sprain, trauma Upper Ext 9=Pulled muscle Lower Ext 10=Pulled muscle Upper Ext 11=Back or neck pain 12=Stress Fx 13=Lacerations 14=Contusions, bruises 15=Head injuries 16=Eye injuries 17=Internal Abdomen inj 18=Internal Chest inj 21=Other	III 3	0 (1335)	Integer	Value Frequency 1 4 2 1 3 1 4 2 5 3 7 1 8 2 9 1 11 1 15 3 16 3 21 7 0 1335 Total 1364
Q LBackInj	Have you ever had a lower back injury? 1=yes 2=no	III 4	0 (68)	Integer	Value Frequency 1 142 2 1154 0 68 Total 1364
Q LegInj	Have you ever had a leg injury? 1=yes 2=no	III 4	0 (45)	Integer	Value Frequency 1 366 2 953 0 45 Total 1364
Q FeetInj	Have you ever had a foot injury? 1=yes 2=no	III 4	0 (68)	Integer	Value Frequency 1 315 2 981 0 68 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q ArmInj	Have you ever had an arm or trunk injury? 1=yes 2=no	III 4	0 (71)	Integer	Value Frequency 1 365 2 928 0 71 Total 1364
Q YrLbkInj	Year of most recent lower back injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 4	0 (1228)	Integer	Value Frequency 1 16 2 8 3 15 4 21 5 39 6 37 0 1228 Total 1364
Q YrLegInj	Year of most recent leg injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 4	0 (1013)	Integer	Value Frequency 1 87 2 35 3 39 4 48 5 71 6 71 0 1013 Total 1364
Q YrFtInj	Year of most recent foot injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 4	0 (1060)	Integer	Value Frequency 1 79 2 32 3 29 4 34 5 63 6 67 0 1060 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q YrArmInj	Year of most recent arm injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 4	0 (1014)	Integer	Value Frequency 1 146 2 39 3 25 4 38 5 60 6 42 0 1014 Total 1364
Q TypeLBInj	Type of most recent lower back injury. 1=Fx 2=Stress Fx 3=Dislocation 4=Sprain 5=Bursitis 6=Fascitis 7=Pulled muscle 8=Tendonitis 9=Shin Splints 10=Overuse injuries 11=Trauma (not knee) 12=Overuse, Knee 13=Trauma, Knee 18=Abrasion 19=Contusion, Bruise 20=Infection 21=Other	III 4	0 (1223)	Integer	Value Frequency 1 5 3 2 4 3 7 74 8 1 11 3 13 1 19 2 21 50 0 1223 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q TypeLegInj	Type of most recent leg injury. 1=Fx 2=Stress Fx 3=Dislocation 4=Sprain 5=Bursitis 6=Fascitis 7=Pulled muscle 8=Tendonitis 9=Shin Splints 10=Overuse injuries 11=Trauma (not knee) 12=Overuse, Knee 13=Trauma, Knee 18=Abrasion 19=Contusion, Bruise 20=Infection 21=Other	III 4	0 (1011)	Integer	Value Frequency 1 56 2 4 3 7 4 33 7 26 8 3 9 23 11 8 12 10 13 91 18 35 19 6 20 2 21 49 0 1011 ------- Total 1364
Q TypFtInj	Type of most recent foot injury. 1=Fx 2=Stress Fx 3=Dislocation 4=Sprain 5=Bursitis 6=Fascitis 7=Pulled muscle 8=Tendonitis 9=Shin Splints 10=Overuse injuries 11=Trauma (not knee) 12=Overuse, Knee 13=Trauma, Knee 18=Abrasion 19=Contusion, Bruise 20=Infection 21=Other	III 4	0 (1056)	Integer	Value Frequency 1 59 2 6 3 17 4 111 7 3 8 2 9 3 10 2 11 16 13 2 18 28 19 9 20 1 21 49 0 1056 ------- Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q TypArmInj	Type of most recent arm injury. 1=Fx 2=Stress Fx 3=Dislocation 4=Sprain 5=Bursitis 6=Fascitis 7=Pulled muscle 8=Tendonitis 9=Shin Splints 10=Overuse injuries 11=Trauma (not knee) 12=Overuse, Knee 13=Trauma, Knee 18=Abrasion 19=Contusion, Bruise 20=Infection 21=Other	III 4	0 (1000)	Integer	Value Frequency 1 194 3 19 4 21 7 24 8 2 10 1 11 11 18 39 19 6 20 2 21 45 0 1000 Total 1364
Q Sprain	Have you ever had an ankle sprain that restricted what you can do? 1=yes 2=no	III 5	0 (23)	Integer	Value Frequency 1 515 2 826 0 23 Total 1364
Q Sprain Sd1	Side of first ankle sprain. 1=right 2=left 3=both	III 5	0 (866)	Integer	Value Frequency 1 276 2 148 3 74 0 866 Total 1364
Q Sprain Sd2	Side of second ankle sprain. 1=right 2=left 3=both	III 5	0 (1223)	Integer	Value Frequency 1 57 2 55 3 29 0 1223 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q YrSprn1	Year of first ankle sprain. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 5	0 (867)	Integer	Value Frequency 1 93 2 44 3 58 4 82 5 127 6 93 0 867 Total 1364
Q YrSprn2	Year of second ankle sprain. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 5	0 (1222)	Integer	Value Frequency 1 23 2 6 3 25 4 31 5 34 6 23 0 1222 Total 1364
Q SprtInj	Have you ever suffered a sports or exercise related injury that caused you to miss at least one day of physical activity or work? 1=yes 2=no	III 6	0 (4)	Integer	Value Frequency 1 598 2 762 0 4 Total 1364
Q Yr1Sprt	Year of first sport/exercise injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 6	0 (782)	Integer	Value Frequency 1 90 2 44 3 72 4 114 5 150 6 112 0 782 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Yr2Spt	Year of second sport/exercise injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 6	0 (1234)	Integer	Value Frequency 1 16 2 13 3 19 4 30 5 32 6 20 0 1234 Total 1364
Q Typ1Sprt	Type of first sports/exercise injury. 1=Fx lower extremity 2=Fx upper extremity 3=Fx hand 4=Fx Axial Spine 5=Other Fx 6=Torn Cartilage, Knee 7=Sprain, trauma Lower Ext 8=Sprain, trauma Upper Ext 9=Pulled muscle Lower Ext 10=Pulled muscle Upper Ext 11=Back or neck pain 12=Stress Fx 13=Lacerations 14=Contusions, bruises 15=Head injuries 16=Eye injuries 17=Internal Abdomen inj 18=Internal Chest inj 21=Other	III 6	0 (799)	Integer	Value Frequency 1 23 2 28 3 24 4 3 5 3 6 4 7 262 8 33 9 29 10 19 11 34 12 4 13 10 14 16 15 5 17 5 18 2 21 61 0 799 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Typ2Sprt	Type of second sports/exercise injury. 1=Fx lower extremity 2=Fx upper extremity 3=Fx hand 4=Fx Axial Spine 5=Other Fx 6=Torn Cartilage, Knee 7=Sprain, trauma Lower Ext 8=Sprain, trauma Upper Ext 9=Pulled muscle Lower Ext 10=Pulled muscle Upper Ext 11=Back or neck pain 12=Stress Fx 13=Lacerations 14=Contusions, bruises 15=Head injuries 16=Eye injuries 17=Internal Abdomen inj 18=Internal Chest inj 21=Other	III 6	0 (1228)	Integer	Value Frequency 1 6 2 6 3 9 4 1 5 2 7 63 8 8 9 3 10 5 11 4 12 3 13 1 14 4 15 4 16 1 21 16 0 1228 Total 1364
Q TempInj	Have you ever suffered a heat or cold injury? 1=yes, heat 2=yes, cold 3=no	III 7	0 (15)	Integer	Value Frequency 1 150 2 44 3 1155 0 15 Total 1364
Q Yr1Temp	Year of first temperature injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 7	0 (1187)	Integer	Value Frequency 1 47 2 8 3 19 4 26 5 37 6 40 0 1187 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Yr2Temp	Year of second temperature injury. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	III 7	0 (1331)	Integer	Value Frequency 1 11 2 4 3 5 4 4 5 5 6 4 0 1331 Total 1364
Q Typ1Temp	Type of first temperature injury. 1=Heat cramps 2=Heat exhaustion 3=Heat stroke 4=Dehydration 5=Sun poisoning 6=Minor sunburn 7=Severe sunburn 8=Other, heat 9=Frostbite/nip 10=Severe frostbite 11=Hypothermia 12=Other, cold	III 7	0 (1173)	Integer	Value Frequency 1 32 2 41 3 20 4 20 5 3 6 9 7 11 8 2 9 25 10 1 11 5 12 3 20 13 21 6 0 1173 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Typ2Temp	Type of second temperature injury. 1=Heat cramps 2=Heat exhaustion 3=Heat stroke 4=Dehydration 5=Sun poisoning 6=Minor sunburn 7=Severe sunburn 8=Other, heat 9=Frostbite/nip 10=Severe frostbite 11=Hypothermia 12=Other, cold	III 7	0 (1341)	Integer	Value Frequency 1 7 2 2 4 1 7 1 9 6 11 2 12 1 20 2 21 1 0 1341 Total 1364
Q Cold	In the past two weeks, have you had a cold? 1=yes 2=no	IV 1	0 (58)	Integer	Value Frequency 1 308 2 998 0 58 Total 1364
Q Flu	In the past two weeks, have you had a flu? 1=yes 2=no	IV 1	0 (132)	Integer	Value Frequency 1 26 2 1206 0 132 Total 1364
Q Fever	In the past two weeks, have you had a fever? 1=yes 2=no	IV 1	0 (130)	Integer	Value Frequency 1 79 2 1155 0 130 Total 1364
Q Nausea	In the past two weeks, have you had nausea? 1=yes 2=no	IV 1	0 (119)	Integer	Value Frequency 1 136 2 1109 0 119 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Vomit	In the past two weeks, have you had vomiting? 1=yes 2=no	IV 1	0 (134)	Integer	Value Frequency 1 49 2 1181 0 134 Total 1364
Q Diarrhea	In the past two weeks, have you had diarrhea? 1=yes 2=no	IV 1	0 (131)	Integer	Value Frequency 1 115 2 1118 0 131 Total 1364
Q Disease	Have you ever been hospitalized overnight for treatment of a serious illness or disease? 1=yes 2=no	IV 2	0 (24)	Integer	Value Frequency 1 234 2 1106 0 24 Total 1364
Q Yr1Ill	Year of first serious illness. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	IV 2	0 (1147)	Integer	Value Frequency 1 157 2 9 3 11 4 18 5 9 6 13 0 1147 Total 1364
Q Yr2Ill	Year of second serious illness. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	IV 2	0 (1351)	Integer	Value Frequency 1 11 2 1 6 1 0 1351 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Typ1Ill	Type of first serious illness. 1=Meningitis, CNS 2=Tonsillitis 3=URI 4=Flu 5=Mononucleosis 6=Pneumonia 7=Bronchitis, LRI 8=Hepatitis 9=Urinary infection 10=STDs 11=GI infections 12=Appendicitis 13=Other infections 14=Asthma 15=Allergic reactions 16=GI conditions 17=Heart conditions 18=Thermal injuries 19=Cold injuries 20=Stings, bites 21=Other	IV 2	0 (1141)	Integer	Value Frequency 1 3 2 52 3 11 4 11 5 3 6 32 7 4 9 1 11 12 12 33 13 16 14 4 15 4 16 1 18 2 20 1 21 33 0 1141 ------- Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Typ2Ill	Type of second serious illness. 1=Meningitis, CNS 2=Tonsillitis 3=URI 4=Flu 5=Mononucleosis 6=Pneumonia 7=Bronchitis, LRI 8=Hepatitis 9=Urinary infection 10=STDs 11=GI infections 12=Appendicitis 13=Other infections 14=Asthma 15=Allergic reactions 16=GI conditions 17=Heart conditions 18=Thermal injuries 19=Cold injuries 20=Stings, bites 21=Other	IV 2	0 (1351)	Integer	Value Frequency 1 1 2 2 3 1 6 5 7 1 11 1 12 2 0 1351 ------- Total 1364
Q Exercise	How often did you exercise or play sports for 15 minutes or more (other than running or jogging) in the last month prior to coming into the army? 1=none 2=less than once/week 3=once/week 4=2-3 times/week 5=4 or more times/week	V 1	0 (18)	Integer	Value Frequency 1 142 2 94 3 177 4 544 5 389 0 18 ------- Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q StrTrain	How many times did you do strength training for more than 15 minutes in the last month? 1=none 2=1 time/week 3=2 times/week 4=3 times/week 5=4 or more times/week	V 5	0 (7)	Integer	Value Frequency 1 313 2 256 3 296 4 338 5 154 0 7 Total 1364
Q FreqJog	During the past month, how often did you run or jog? 1=none 2=less than once/week 3=once/week 4=2-3 times/week 5=4 or more times/week	V 2	0 (8)	Integer	Value Frequency 1 221 2 216 3 431 4 380 5 108 0 8 Total 1364
Q TimeJog	When you ran or jogged, how many minutes did you actually spend running or jogging? 1=none 2=less than 10 min 3=10-20 min 4=20-30 min 5=more than 30 min	V 3	0 (13)	Integer	Value Frequency 1 172 2 144 3 360 4 245 5 430 0 13 Total 1364
Q MinExercise	If you exercised (not running or jogging) in the last month, how many minutes did you exercise each time on the average? 1=none 2=less than 10 min 3=10-20 min 4=20-30 min 5=more than 30 min	V 4	0 (10)	Integer	Value Frequency 1 337 2 235 3 277 4 212 5 293 0 10 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Stretch	Was stretching a regular part of your exercise in the last month? 0=did not exercise 1=exrcsd w/o stretching 2=stretch <1/2 exrcsd 3=stretch about half 4=stretch >1/2exrcsd 5=always stretched	V 6	0 (177)	Integer	Value Frequency 1 290 2 332 3 207 4 132 5 226 0 177 Total 1364
Q TypFeet	How would you classify your feet, compared to others of your age and sex? 1=flat arches 2=high arches 3=normal	VI 1	0 (8)	Integer	Value Frequency 1 254 2 89 3 1013 0 8 Total 1364
Q DomHand	Dominant hand 1=right 2=left	VI 2	0 (4)	Integer	Value Frequency 1 1203 2 157 0 4 Total 1364
Q Ftprob	Do you have problems with your feet that sometimes cause you to limit your daily activities? 1=yes 2=no	VI 3	0 (6)	Integer	Value Frequency 1 132 2 1226 0 6 Total 1364
Q TypLegs	How would you classify your legs as compared to others of your age and sex. 1=knock kneed 2=bow legged 3=normal	VI 4	0 (9)	Integer	Value Frequency 1 60 2 158 3 1137 0 9 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q DomFoot	Dominant foot. 1=right 2=left	VI 5	0 (15)	Integer	Value Frequency 1 1204 2 145 0 15 Total 1364
Q BkPain	Do you have back pain that sometimes causes you to limit your daily activities? 1=yes 2=no	VI 6	0 (23)	Integer	Value Frequency 1 192 2 1149 0 23 Total 1364
Q Endurance	Compared to others of your sex, how would you rate your endurance? 1=poor 2=below avg 3=average 4=above avg 5=excellent	VI 7A	0 (13)	Integer	Value Frequency 1 38 2 184 3 692 4 368 5 69 0 13 Total 1364
Q Speed	Compared to others of your sex, how would you rate your sprint speed? 1=poor 2=below avg 3=average 4=above avg 5=excellent	VI 7B	0 (16)	Integer	Value Frequency 1 37 2 247 3 689 4 312 5 63 0 16 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Strength	Compared to others of your sex, how would you rate your strength? 1=poor 2=below avg 3=average 4=above avg 5=excellent	VI 7C	0 (13)	Integer	Value Frequency 1 20 2 217 3 754 4 291 5 69 0 13 Total 1364
Q FlexRtg	Compared to others of your sex, how would you rate your flexibility? 1=poor 2=below avg 3=average 4=above avg 5=excellent	VI 7D	0 (15)	Integer	Value Frequency 1 119 2 276 3 633 4 240 5 81 0 15 Total 1364
Q Sports	Did you participate in varsity sports in high school or college? 1=yes 2=no	VI 8	0 (26)	Integer	Value Frequency 1 812 2 526 0 26 Total 1364
Q Letter1	Did you letter in first varsity sport? 1=yes 2=no	VI 8	0 (575)	Integer	Value Frequency 1 604 2 185 0 575 Total 1364
Q Letter2	Did you letter in second varsity sport? 1=yes 2=no	VI 8	0 (981)	Integer	Value Frequency 1 283 2 100 0 981 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Letter3	Did you letter in third varsity sport? 1=yes 2=no	VI 8	0 (1219)	Integer	Value Frequency 1 106 2 39 0 1219 Total 1364
Q YrLetter	Year of varsity letter. 1=before 1985 2=1985 3=1986 4=1987 5=1988 6=1989	VI 8	0 (616)	Integer	Value Frequency 1 71 2 36 3 58 4 109 5 164 6 310 0 616 Total 1364
Q Typ1Sprt	Type of first varsity sport. 1=Football 2=Track and Field 3=Baseball 4=Basketball 5=Wrestling 6=Cross Country 7=Soccer 8=Swimming 9=Tennis 10=Golf 11=Volleyball 12=Lacrosse 13=Racquetball 14=Rugby 15=Water polo 16=Skiing 19=Band 20=Other, specified 21=Unspecified	VI 8	0 (552)	Integer	Value Frequency 1 316 2 96 3 65 4 79 5 79 6 41 7 42 8 25 9 15 10 12 11 7 12 3 13 1 15 2 16 3 19 9 20 15 21 2 0 552 Total 1364

Fort Bliss 89 Questionnaire
4D Filename - Bliss Quest

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Typ2Sprt	Type of second varsity sport. 1=Football 2=Track and Field 3=Baseball 4=Basketball 5=Wrestling 6=Cross Country 7=Soccer 8=Swimming 9=Tennis 10=Golf 11=Volleyball 12=Lacrosse 13=Racquetball 14=Rugby 15=Water polo 16=Skiing 19=Band 20=Other, specified 21=Unspecified	VI 8	0 (930)	Integer	Value Frequency 1 62 2 93 3 52 4 72 5 61 6 26 7 19 8 12 9 4 10 6 11 2 12 3 14 2 15 1 16 2 19 1 20 12 21 4 0 930 Total 1364
Q Smoke	What best describes your smoking history (before coming to the army)? 1=never 2=smoked but quit 3=less than 10 cig/day 4=10-20 cig/day 5=more than 20 cig/day	VI 9	0 (7)	Integer	Value Frequency 1 895 2 151 3 101 4 152 5 58 0 7 Total 1364

Field Name	Description	Quest #	Missing Values	Format	Responses
Q Ethnic	What best describes your ethnic group? 1=asian 2=black 3=hispanic 4=white 5=other	VI 10	0 (8)	Integer	Value Frequency 1 25 2 336 3 132 4 838 5 25 0 8 Total 1364

FORT BLISS 1989 DATABASE

APPENDIX E
TABLES AND HISTOGRAMS
PRESENTED FOR ALL STUDY SUBJECTS

DEMOGRAPHICS, ANTHROPOMETRICS, RISK FACTORS, AND FITNESS MEASURES

Fort Bliss 1989 Male Recruits
Table of Contents

FB '89 Subject Info By Unit

	C1	C1B	C1B9	D1A	D1B	D1BW	D1C	D1C8	D3	D3B	D3B7	D3C	E1	E3	TOTAL
1 (Subject)	246			214	260				202				221	214	1357
2 (Pro Unit)															0
3 (Recycled)															0
4 (Discharged)															0
5 (Anth Only, Pro)		16	3			1	4	6		5	5	1			41
6 (Quest Only, Pro)															0
7 (Anth Only)	6			2	1				10				1	6	26
8 (Quest Only)	4			1									1	1	7
9 (Non-Subject)	2			5	1				1					1	10
TOTAL:	258	16	3	222	262	1	4	6	213	5	5	1	223	222	1441

Note: All graphs and tables to follow will use only recruits with a Subject Info Code of 1

AGE_2 Age of MALE recruits:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
17	17.00	159	11.7	11.8	11.8
18	18.00	667	49.2	49.5	61.3
19	19.00	251	18.5	18.6	80.0
20	20.00	88	6.5	6.5	86.5
21	21.00	46	3.4	3.4	89.9
22	22.00	33	2.4	2.4	92.4
23	23.00	22	1.6	1.6	94.0
24	24.00	20	1.5	1.5	95.5
25	25.00	10	.7	.7	96.2
26	26.00	4	.3	.3	96.5
27	27.00	13	1.0	1.0	97.5
28	28.00	11	.8	.8	98.3
29	29.00	7	.5	.5	98.8
30	30.00	4	.3	.3	99.1
31	31.00	3	.2	.2	99.3
33	33.00	2	.1	.1	99.5
34	34.00	6	.4	.4	99.9
40	40.00	1	.1	.1	100.0
Missing	.00	10	.7	Missing	
	Total	1357	100.0	100.0	

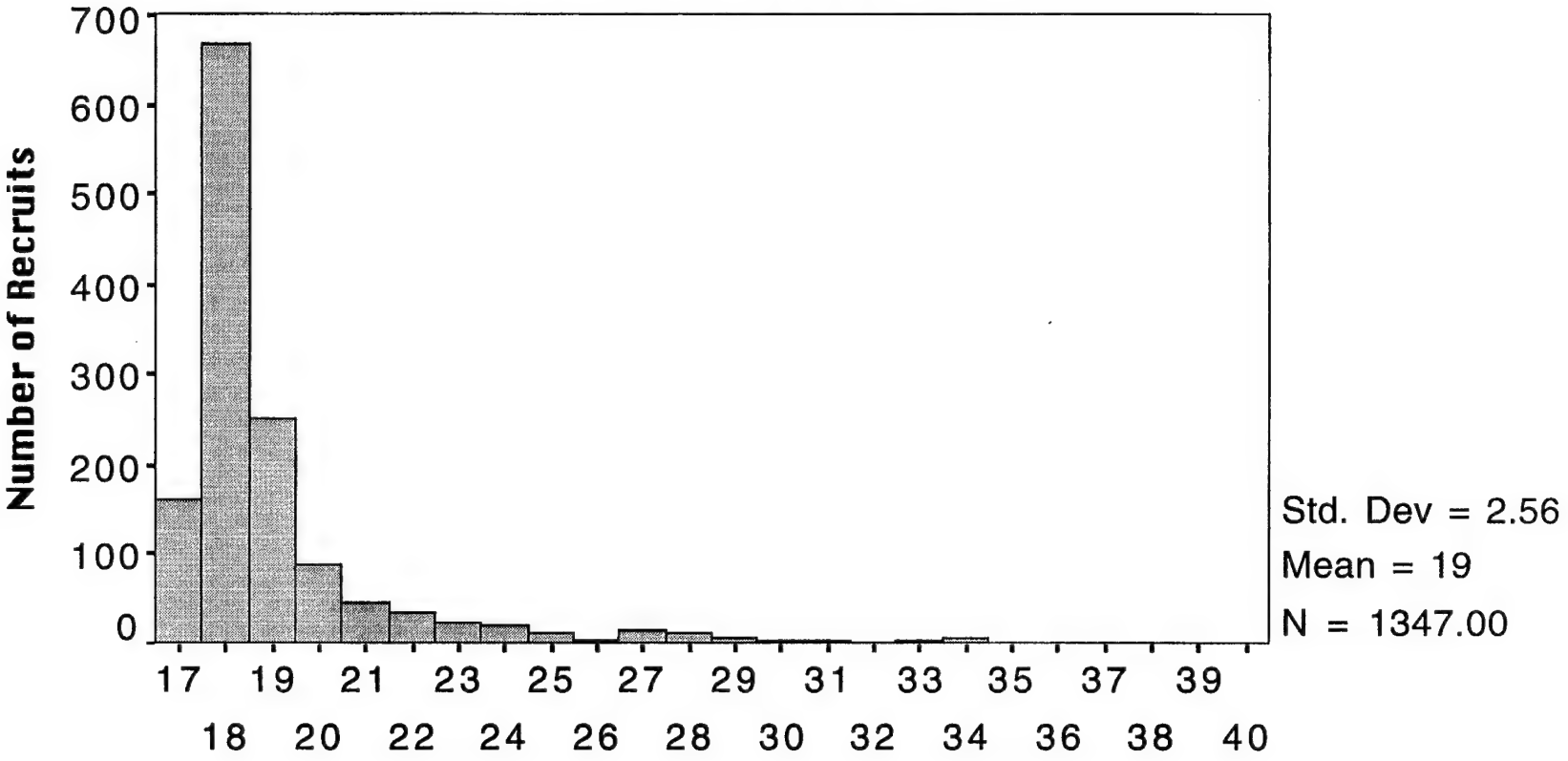
Valid cases 1347 Missing cases 10

Statistics for AGE:

Mean	19.046	Median	18.000	Mode	18.000
Std dev	2.557	Variance	6.537	Range	23.000
Minimum	17.000	Maximum	40.000		

Valid cases 1347 Missing cases 10

FB '89 AGE DISTRIBUTION



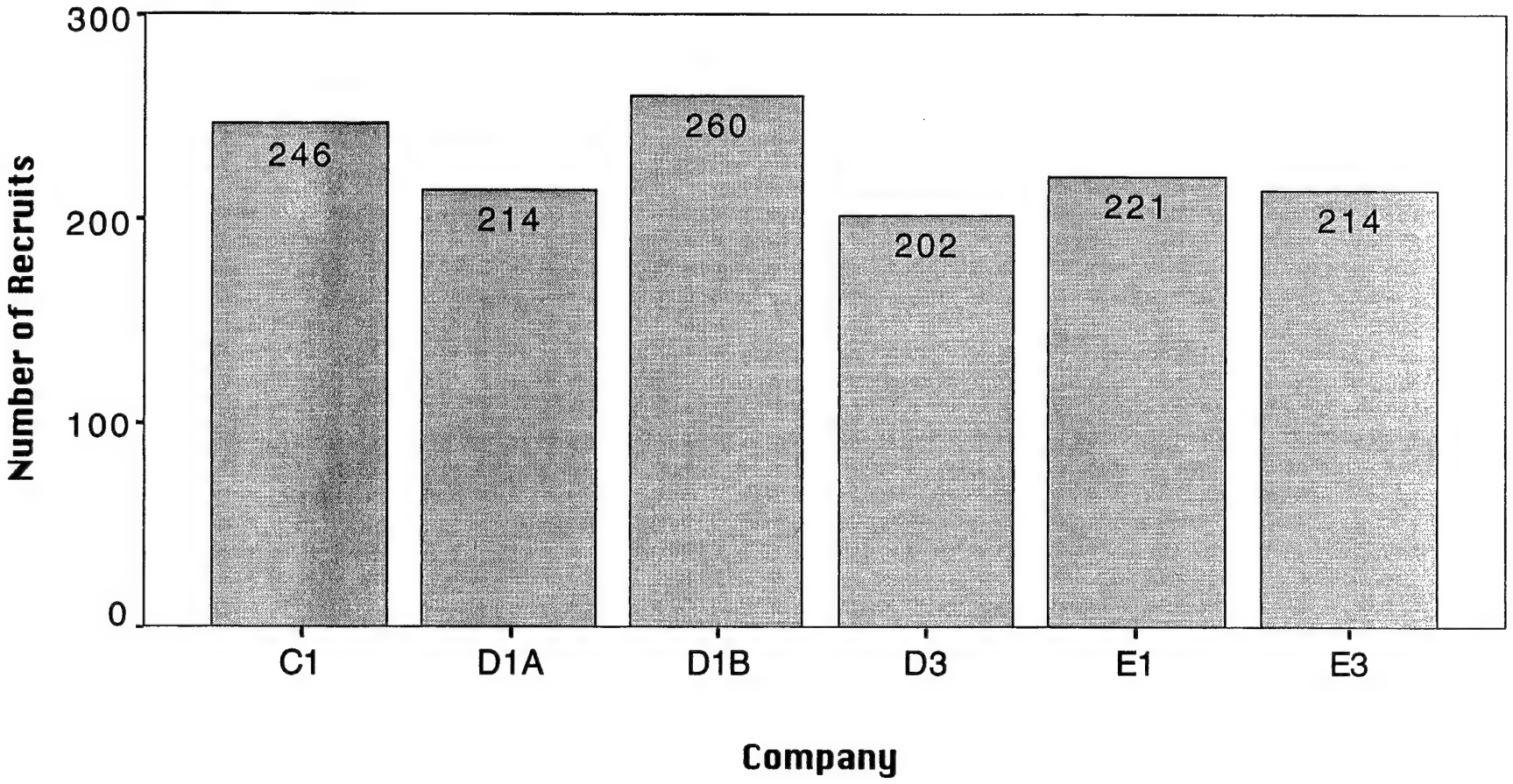
FB Charts: FB Age 11/1/96

COMPANY Company Distribution for MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
C1	C1	246	18.1	18.1	18.1
D1A	D1A	214	15.8	15.8	33.9
D1B	D1B	260	19.2	19.2	53.1
D3	D3	202	14.9	14.9	67.9
E1	E1	221	16.3	16.3	84.2
E3	E3	214	15.8	15.8	100.0
	Total	1357	100.0	100.0	

Valid cases 1357 Missing cases 0

FB '89 COMPANY DISTRIBUTION



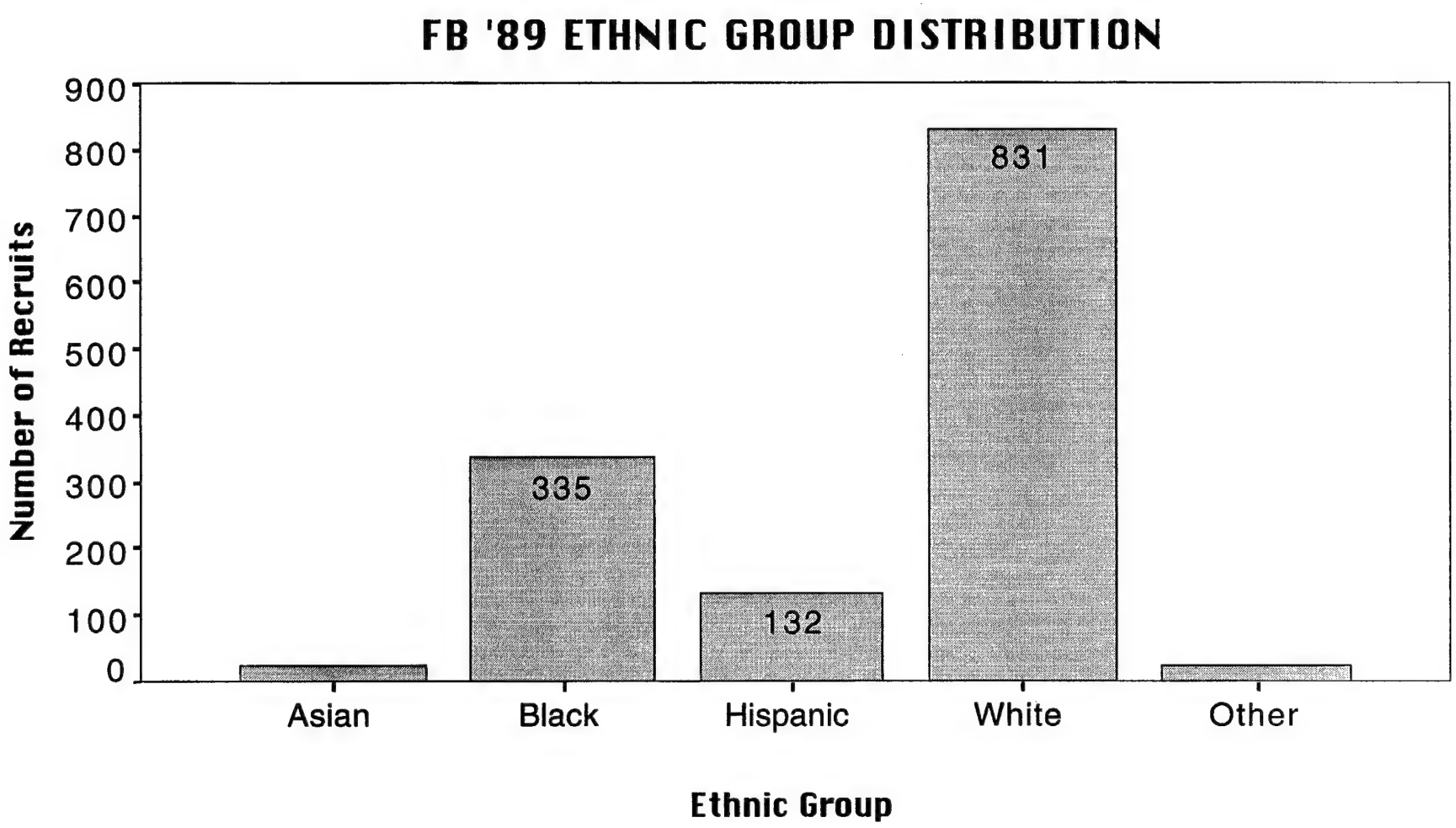
FB Charts: FB Company 1/9/97

Q_ETHNIC Ethnic Distribution of MALE recruits:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
ASIAN	1.00	25	1.8	1.9	1.9
BLACK	2.00	335	24.7	24.9	26.7
HISPANIC	3.00	132	9.7	9.8	36.5
WHITE	4.00	831	61.2	61.6	98.1
OTHER	5.00	25	1.8	1.9	100.0
UNKNOWN	.00	9	.7	Missing	
	Total	1357	100.0	100.0	

Valid cases 1348 Missing cases 9

Actual Question Asked: What best describes your ethnic group?



FB Charts: FB Ethnic 1/9/97

02 Jan 97 SPSS 6.1 for the Power Macintosh

AN_WT (kg) Weight of MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
45-49.99	45.00	1	.1	.1	.1
50-54.99	50.00	13	1.0	1.0	1.0
55-59.99	55.00	78	5.7	5.8	6.8
60-64.99	60.00	175	12.9	12.9	19.7
65-69.99	65.00	210	15.5	15.5	35.2
70-74.99	70.00	235	17.3	17.3	52.5
75-79.99	75.00	208	15.3	15.3	67.8
80-84.99	80.00	155	11.4	11.4	79.3
85-89.99	85.00	105	7.7	7.7	87.0
90-94.99	90.00	68	5.0	5.0	92.0
95-99.99	95.00	56	4.1	4.1	96.2
100-104.99	100.00	29	2.1	2.1	98.3
105-109.99	105.00	16	1.2	1.2	99.5
110-114.99	110.00	5	.4	.4	99.9
115-119.99	115.00	2	.1	.1	100.0
Missing	.	1	.1	Missing	
	Total	1357	100.0	100.0	

Valid cases 1356 Missing cases 1

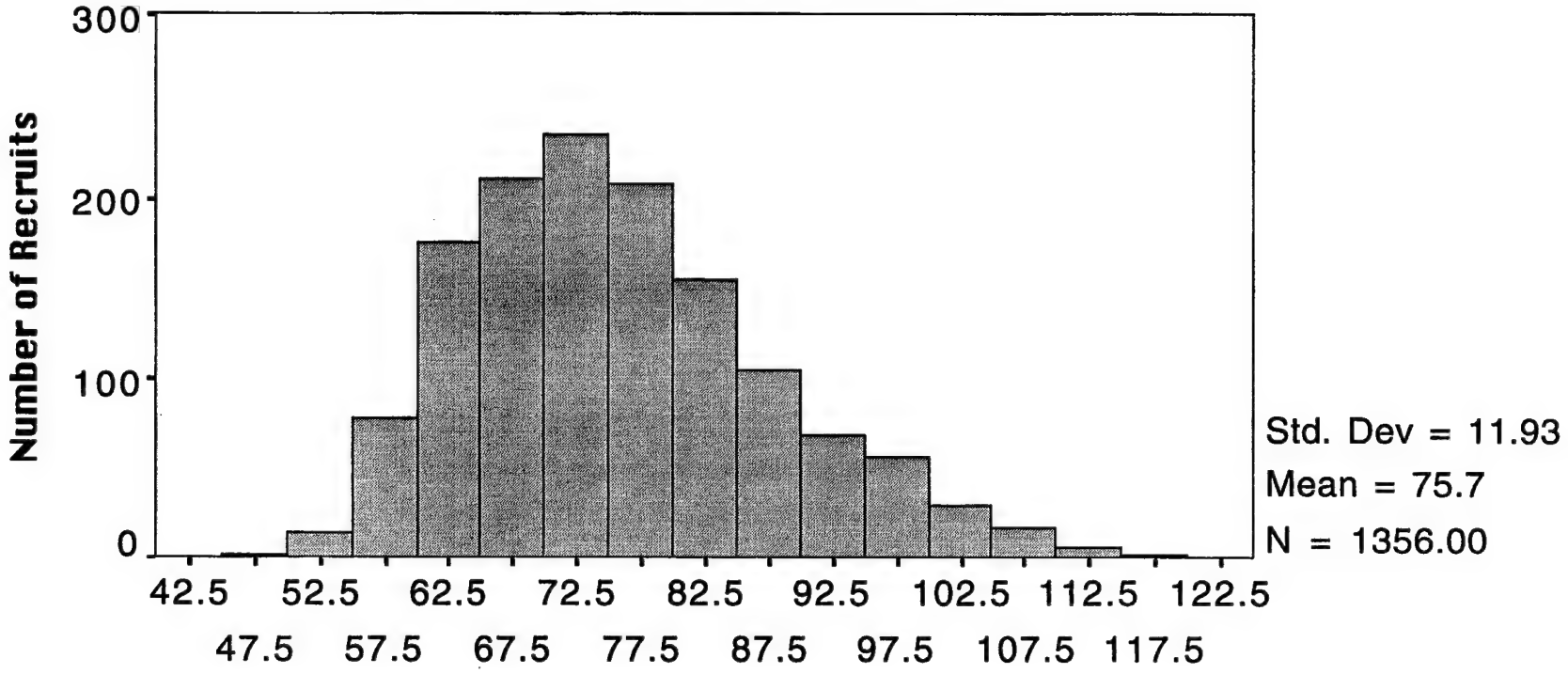
Statistics for AN_WT (kg):

Mean	75.718	Median	74.100	Mode	69.200
Std dev	11.931	Variance	142.338	Range	66.600
Minimum	49.800	Maximum	116.400		

* Multiple modes exist. The smallest value is shown.

Valid cases 1356 Missing cases 1

FB '89 WEIGHT DISTRIBUTION



Weight of Recruits in 5 kg groups

FB Charts: FB Weight 12/31/96

Weight Categories: 40-44.99, 45-49.99, 50-54.99, ..., 120-124.99

AN_HT (cm) Height of MALE recruits:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
152-153.99	152.00	1	.1	.1	.1
154-155.99	154.00	1	.1	.1	.1
158-159.99	158.00	4	.3	.3	.4
160-161.99	160.00	14	1.0	1.0	1.5
162-163.99	162.00	33	2.4	2.4	3.9
164-165.99	164.00	45	3.3	3.3	7.2
166-167.99	166.00	63	4.6	4.6	11.9
168-169.99	168.00	103	7.6	7.6	19.5
170-171.99	170.00	127	9.4	9.4	28.8
172-173.99	172.00	137	10.1	10.1	38.9
174-175.99	174.00	166	12.2	12.2	51.2
176-177.99	176.00	164	12.1	12.1	63.3
178-179.99	178.00	125	9.2	9.2	72.5
180-181.99	180.00	126	9.3	9.3	81.8
182-183.99	182.00	92	6.8	6.8	88.6
184-185.99	184.00	61	4.5	4.5	93.1
186-187.99	186.00	55	4.1	4.1	97.1
188-189.99	188.00	19	1.4	1.4	98.5
190-191.99	190.00	10	.7	.7	99.3
192-193.99	192.00	3	.2	.2	99.5
194-195.99	194.00	1	.1	.1	99.6
196-197.99	196.00	3	.2	.2	99.8
198-199.99	198.00	2	.1	.1	99.9
200-201.99	200.00	1	.1	.1	100.0
Missing	.00	1	.1	Missing	
	Total	1357	100.0	100.0	

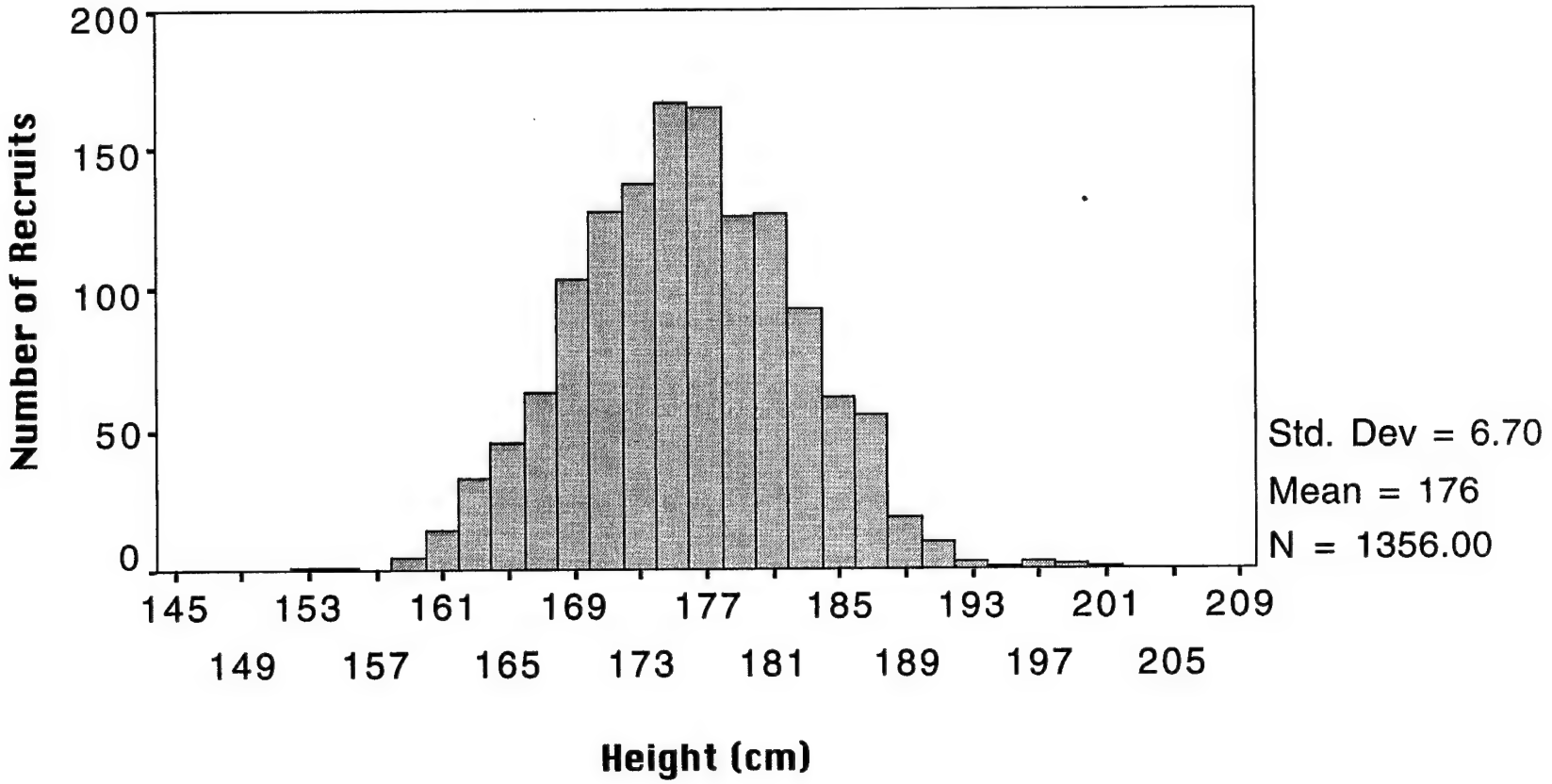
Valid cases 1356 Missing cases 1

Statistics for AN_HT (cm):

Mean	175.803	Median	175.700	Mode	175.500
Std dev	6.699	Variance	44.879	Range	46.600
Minimum	153.600	Maximum	200.200		

Valid cases 1356 Missing cases 1

FB '89 HEIGHT DISTRIBUTION



FB Charts: FB Height 12/31/96

Height Categories: 144-145.99, 146-147.99, 148-149.99, ..., 208-209.99

27 Dec 96 SPSS 6.1 for the Power Macintosh

BMI_2 BMI of MALE recruits:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
16-16.99	16.00	1	.1	.1	.1	
17-17.99	17.00	4	.3	.3	.4	
18-18.99	18.00	21	1.5	1.5	1.9	
19-19.99	19.00	62	4.6	4.6	6.5	
20-20.99	20.00	119	8.8	8.8	15.3	
21-21.99	21.00	140	10.3	10.3	25.6	
22-22.99	22.00	178	13.1	13.1	38.7	
23-23.99	23.00	169	12.5	12.5	51.2	
24-24.99	24.00	145	10.7	10.7	61.9	
25-25.99	25.00	118	8.7	8.7	70.6	
26-26.99	26.00	87	6.4	6.4	77.0	
27-27.99	27.00	80	5.9	5.9	82.9	
28-28.99	28.00	62	4.6	4.6	87.5	
29-29.99	29.00	56	4.1	4.1	91.6	
30-30.99	30.00	42	3.1	3.1	94.7	
31-31.99	31.00	40	2.9	2.9	97.6	
32-32.99	32.00	25	1.8	1.8	99.5	
33-33.99	33.00	5	.4	.4	99.9	
34-34.99	34.00	1	.1	.1	99.9	
37-37.99	37.00	1	.1	.1	100.0	Data below this line not shown on graph
Missing	.00	1	.1	Missing		
	Total	1357	100.0	100.0		

Valid cases 1356 Missing cases 1

Statistics for AN_BMI:

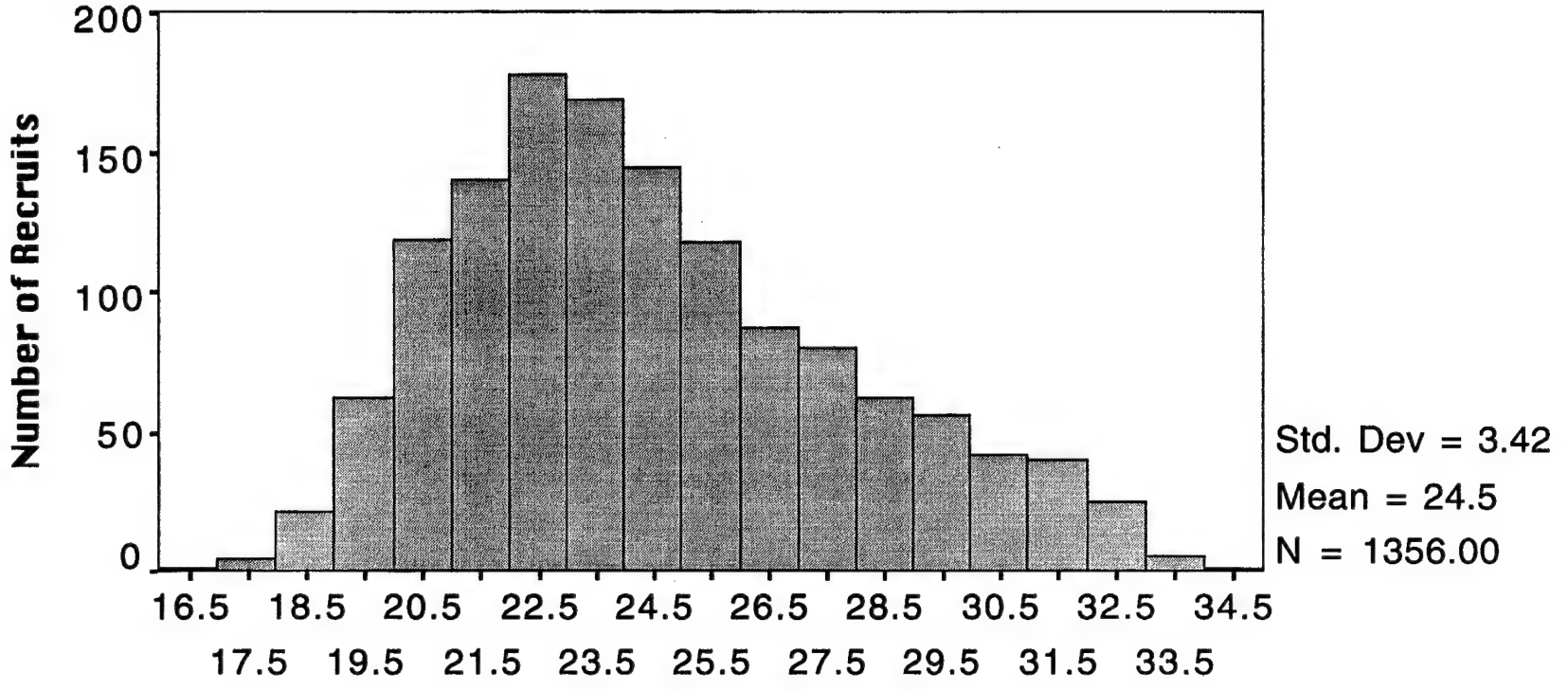
Mean	24.472	Median	23.900	Mode	21.231
Std dev	3.417	Variance	11.675	Range	20.977
Minimum	16.640	Maximum	37.617		

* Multiple modes exist. The smallest value is shown.

Valid cases 1356 Missing cases 1

formula: AN BMI:=An Wt/(An Ht/100)^2

FB '89 BMI DISTRIBUTION



Body Mass Index for Recruits (kg/m^2)

FB Charts: FB An BMI 12/31/96

BMI Categories: 16-16.99, 17-17.99, 18-18.99, ..., 34-34.99

ARMYBF_2 Army Calculation of Percent Body Fat of MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
2-3.99	2.00	1	.1	.1	.1
4-5.99	4.00	3	.2	.2	.3
6-7.99	6.00	8	.6	.6	.9
8-9.99	8.00	37	2.7	2.7	3.6
10-11.99	10.00	111	8.2	8.2	11.8
12-13.99	12.00	167	12.3	12.3	24.1
14-15.99	14.00	200	14.7	14.8	38.9
16-17.99	16.00	177	13.0	13.1	52.0
18-19.99	18.00	170	12.5	12.5	64.5
20-21.99	20.00	114	8.4	8.4	72.9
22-23.99	22.00	105	7.7	7.7	80.7
24-25.99	24.00	98	7.2	7.2	87.9
26-27.99	26.00	73	5.4	5.4	93.3
28-29.99	28.00	50	3.7	3.7	97.0
30-31.99	30.00	28	2.1	2.1	99.0
32-33.99	32.00	11	.8	.8	99.9
34-35.99	34.00	2	.1	.1	100.0
Missing	.	2	.2	Missing	
	Total	1357	100.0	100.0	

Valid cases 1355 Missing cases 2

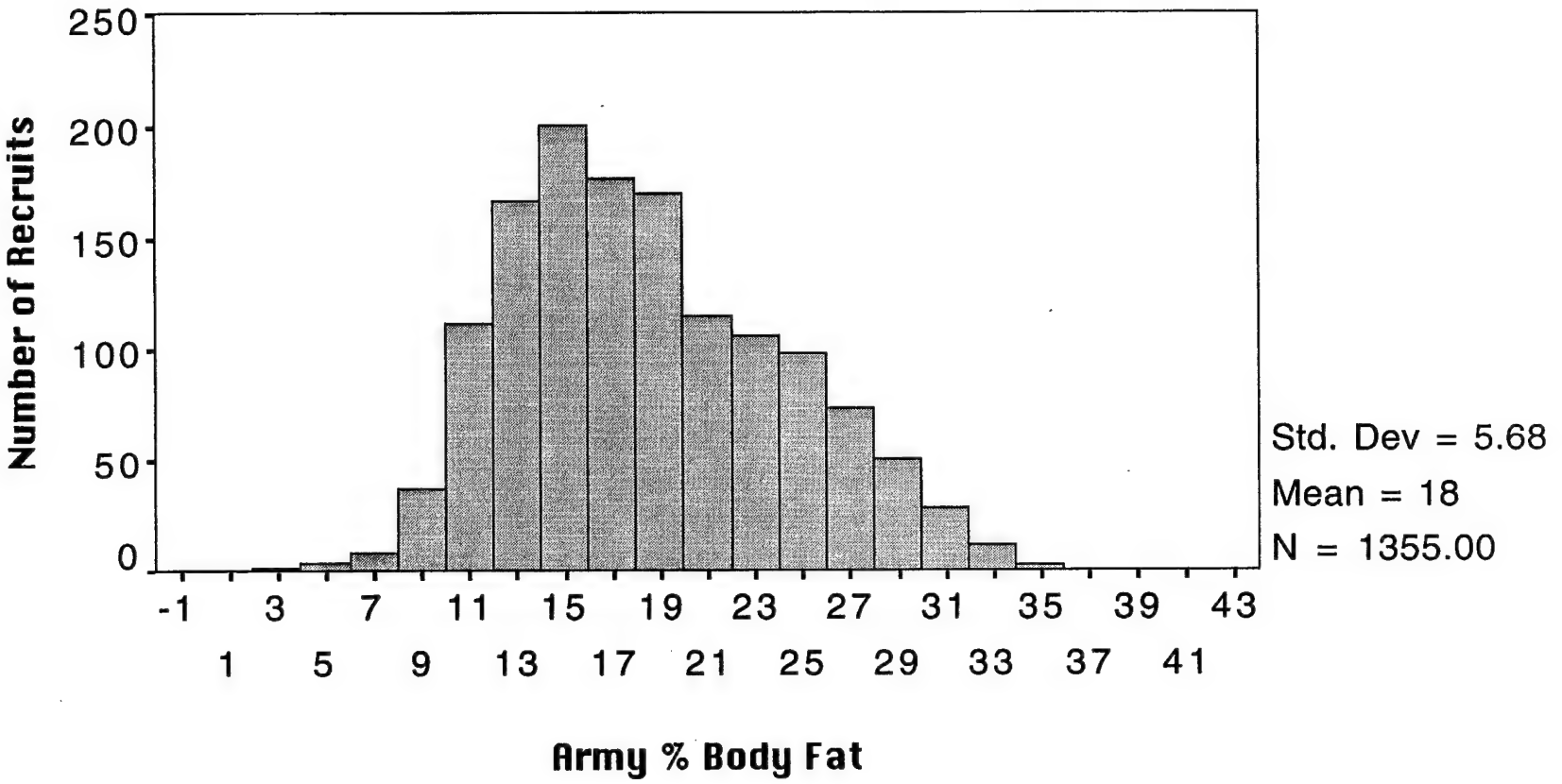
Statistics for AN_AR_BF:

Mean	18.399	Median	17.600	Mode	15.500
Std dev	5.682	Variance	32.286	Range	30.600
Minimum	3.500	Maximum	34.100		

Valid cases 1355 Missing cases 2

formula: if (AN ABD2 M>0, (46.892-(68.687*(Log(AN HT))*0.4342944)+
(76.462*(Log(AN ABD AVG M-AN NEK AVG M)*0.43429448))),0)

FB '89 ARMY % BODY FAT



FB Charts:FB Army % BF 12/31/96

Army % BF categories: (-2)-(-0.01), 0-1.99, 2-3.99, ..., 42-43.99

NAVYBF_2 Navy Calculation of Percent Body Fat of MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
-2-(-.01)	-2.00	2	.1	.1	.1
0-1.99	.00	6	.4	.4	.6
2-3.99	2.00	12	.9	.9	1.5
4-5.99	4.00	41	3.0	3.0	4.5
6-7.99	6.00	135	9.9	10.0	14.5
8-9.99	8.00	158	11.6	11.7	26.1
10-11.99	10.00	193	14.2	14.2	40.4
12-13.99	12.00	160	11.8	11.8	52.2
14-15.99	14.00	155	11.4	11.4	63.6
16-17.99	16.00	113	8.3	8.3	72.0
18-19.99	18.00	91	6.7	6.7	78.7
20-21.99	20.00	82	6.0	6.1	84.7
22-23.99	22.00	79	5.8	5.8	90.6
24-25.99	24.00	62	4.6	4.6	95.1
26-27.99	26.00	39	2.9	2.9	98.0
28-29.99	28.00	18	1.3	1.3	99.3
30-31.99	30.00	8	.6	.6	99.9
32-33.99	32.00	1	.1	.1	100.0
Missing	999.00	2	.1	Missing	
	Total	1357	100.0	100.0	

Valid cases 1355 Missing cases 2

Statistics for AN_NV_BF:

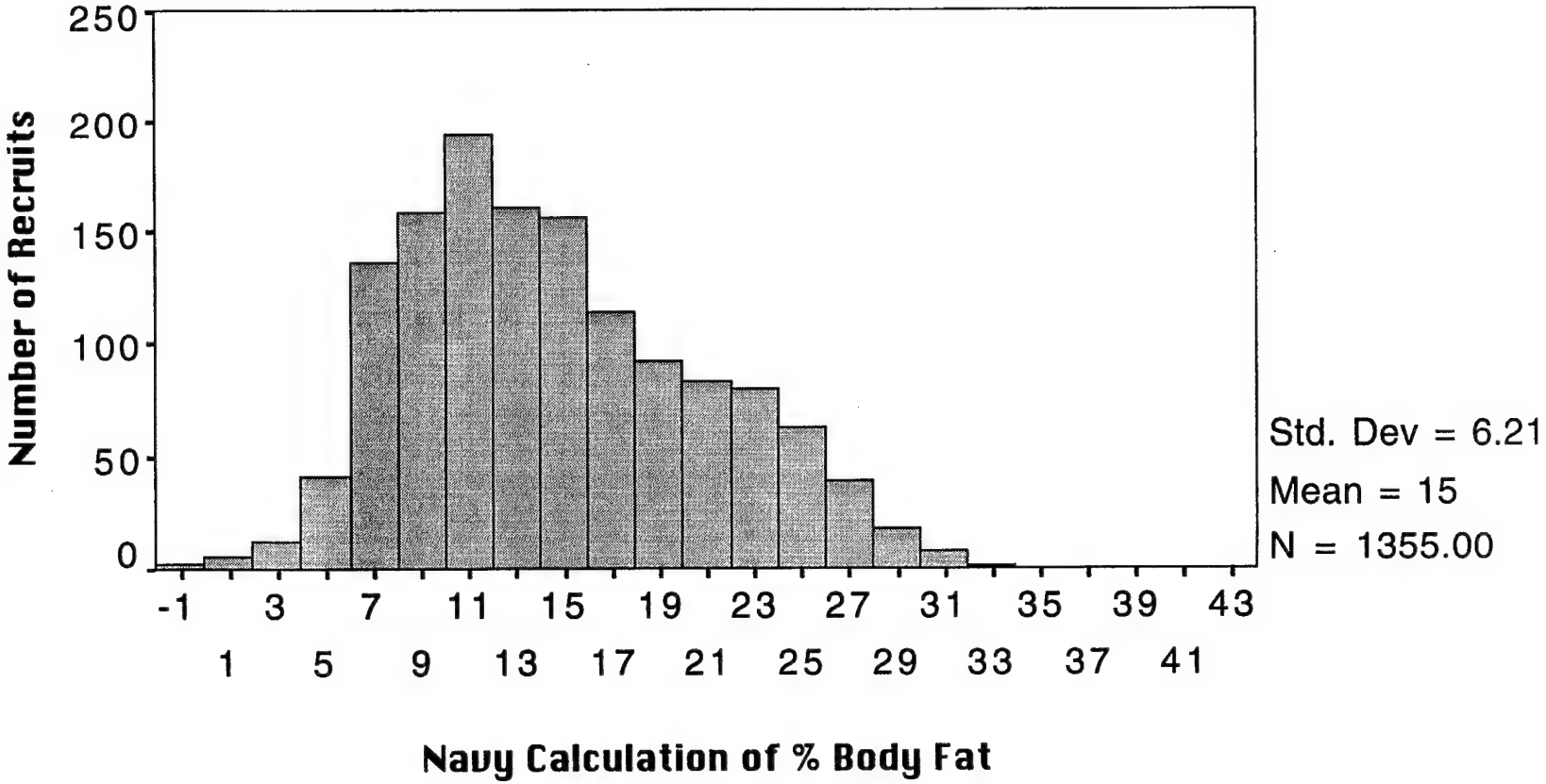
Mean	14.543	Median	13.570	Mode	9.610
Std dev	6.215	Variance	38.621	Range	33.135
Minimum	-1.102	Maximum	32.033		

* Multiple modes exist. The smallest value is shown.

Valid cases 1355 Missing cases 2

formula: if (AN ABD AVG M>0, ((4.95/AN BDM)-4.5) *100,0)
with: if (AN ABD3 M>0, (1.0324+(0.15456*(Log(AN HT))*0.434292)-
(0.19077*(Log(AN ABD AVG M-AN NEK AVG M))*0.434292)),1)

FB '89 NAVY % BODY FAT



FB Charts:FB Navy % BF 1/9/97

Navy % BF categories: (-2)-(-0.01), 0-1.99, 2-3.99, ..., 42-43.99

AN_NEK (cm) Neck Size Distribution among MALE recruits:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
24-24.99	24.00	1	.1	.1	.1	
						Data above this line not shown on graph
31-31.99	31.00	2	.1	.1	.2	
32-32.99	32.00	13	1.0	1.0	1.2	
33-33.99	33.00	48	3.5	3.5	4.7	
34-34.99	34.00	104	7.7	7.7	12.4	
35-35.99	35.00	184	13.5	13.6	26.0	
36-36.99	36.00	221	16.3	16.3	42.3	
37-37.99	37.00	258	19.0	19.0	61.3	
38-38.99	38.00	208	15.3	15.4	76.7	
39-39.99	39.00	140	10.3	10.3	87.0	
40-40.99	40.00	77	5.7	5.7	92.7	
41-41.99	41.00	49	3.6	3.6	96.3	
42-42.99	42.00	32	2.4	2.4	98.7	
43-43.99	43.00	13	1.0	1.0	99.6	
44-44.99	44.00	2	.1	.1	99.8	
						Data below this line not shown on graph
46-46.99	46.00	1	.1	.1	99.9	
47-47.99	47.00	1	.1	.1	99.9	
48-48.99	48.00	1	.1	.1	100.0	
Missing	.00	2	.1	Missing		
	Total	1357	100.0	100.0		

Valid cases 1355 Missing cases 2

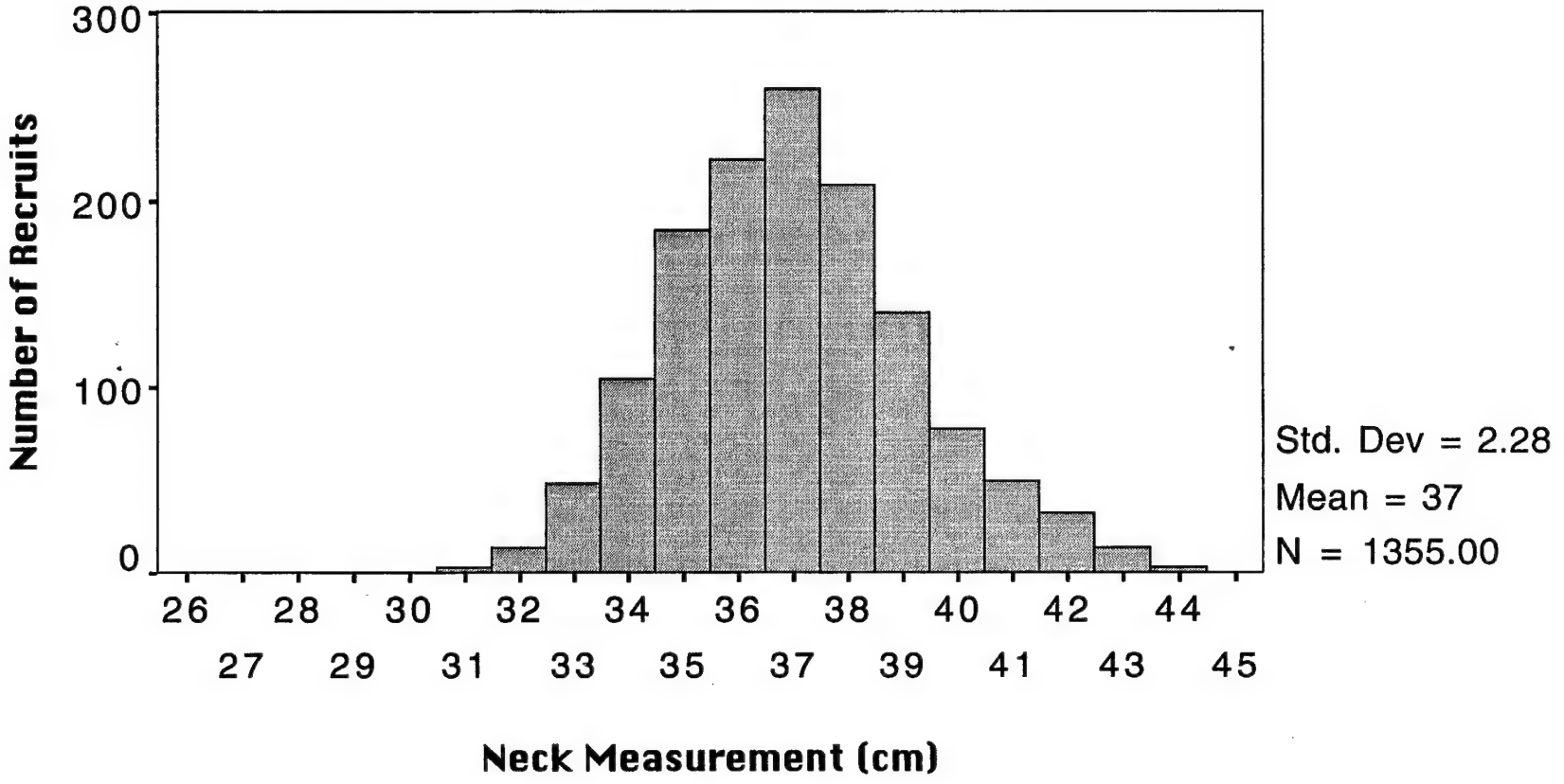
Statistics for AN_NEK (cm):

Mean	37.477	Median	37.300	Mode	37.000
Std dev	2.280	Variance	5.198	Range	23.160
Minimum	24.970	Maximum	48.130		

Valid cases 1355 Missing cases 2

Note: AN_NEK is an average of three neck measurements

FB '89 NECK SIZE DISTRIBUTION



FB Charts: FB Neck 1/10/97

Neck Size Categories: 26-26.99, 27-27.99, 28-28.99, ..., 45-45.99

27 Dec 96 SPSS 6.1 for the Power Macintosh

AN_ABD (cm) Abdomen Size Distribution among MALE recruits:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
60-64.99	60.00	5	.4	.4	.4
65-69.99	65.00	57	4.2	4.2	4.6
70-74.99	70.00	264	19.4	19.5	24.1
75-79.99	75.00	323	23.8	23.8	47.9
80-84.99	80.00	276	20.3	20.4	68.3
85-89.99	85.00	155	11.4	11.4	79.7
90-94.99	90.00	117	8.6	8.6	88.3
95-99.99	95.00	81	6.0	6.0	94.3
100-104.99	100.00	54	4.0	4.0	98.3
105-109.99	105.00	16	1.2	1.2	99.5
110-114.99	110.00	7	.5	.5	100.0
Missing	.00	2	.1	Missing	
	Total	1357	100.0	100.0	

Valid cases 1355 Missing cases 2

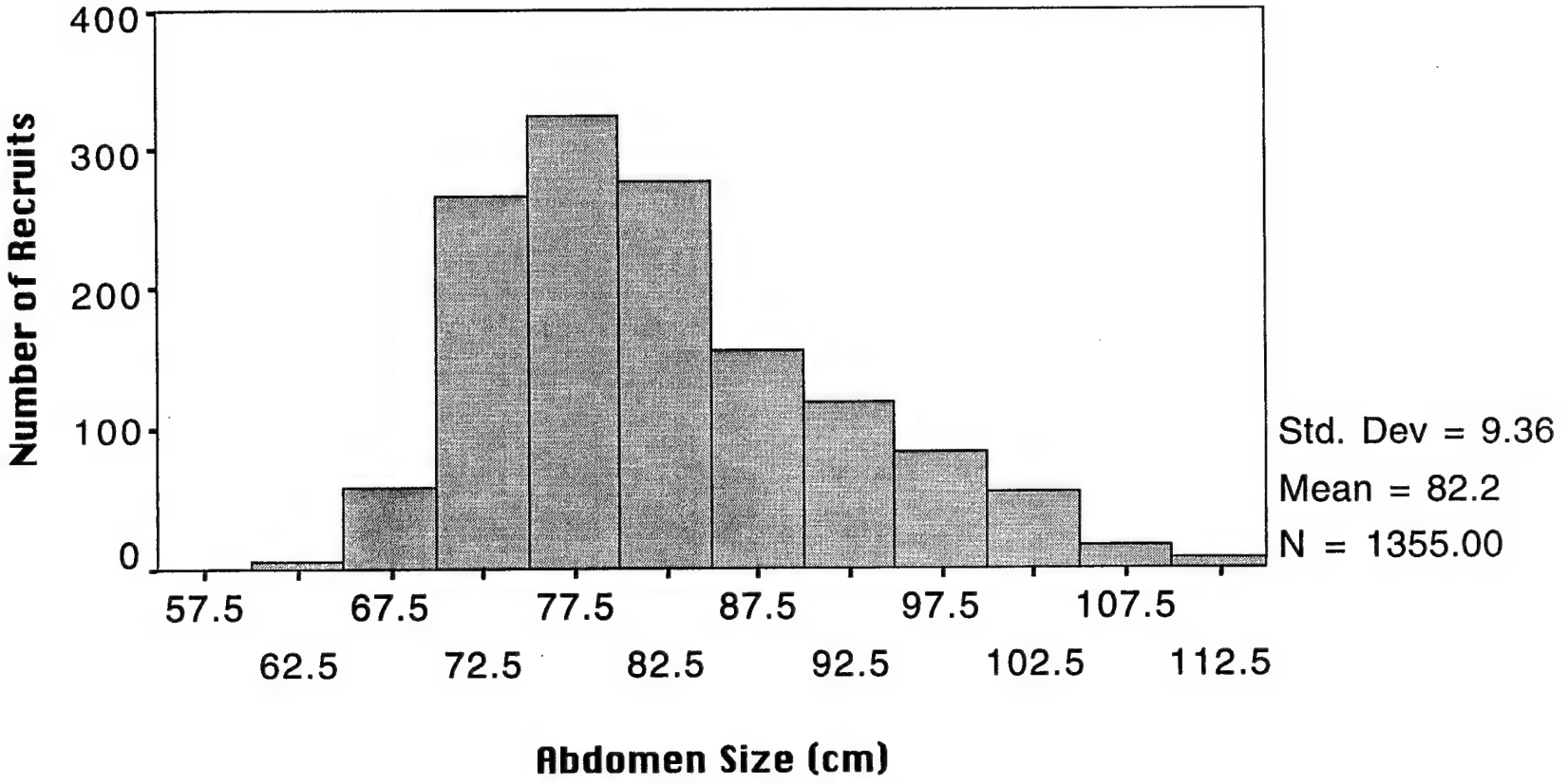
Statistics for AN_ABD (cm):

Mean	82.197	Median	80.400	Mode	82.430
Std dev	9.362	Variance	87.640	Range	50.860
Minimum	62.370	Maximum	113.230		

Valid cases 1355 Missing cases 2

Note: AN_ABD is an average of three abdominal measurements

FB '89 ABDOMEN SIZE DISTRIBUTION



FB Charts: FB Abd 12/31/96

Abdomen Size Categories: 55-59.99, 60-64.99, 65-69.99, ..., 110-114.99

30 Dec 96 SPSS 6.1 for the Power Macintosh

FLEX_2 Flexibility of MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
0-1.99	.00	3	.2	.2	.2	
						Data above this line
6-7.99	6.00	2	.1	.1	.4	not shown on graph
8-9.99	8.00	5	.4	.4	.7	
10-11.99	10.00	9	.7	.7	1.4	
12-13.99	12.00	15	1.1	1.1	2.5	
14-15.99	14.00	17	1.3	1.3	3.8	
16-17.99	16.00	27	2.0	2.0	5.7	
18-19.99	18.00	66	4.9	4.9	10.6	
20-21.99	20.00	72	5.3	5.3	15.9	
22-23.99	22.00	69	5.1	5.1	21.0	
24-25.99	24.00	114	8.4	8.4	29.4	
26-27.99	26.00	104	7.7	7.7	37.1	
28-29.99	28.00	137	10.1	10.1	47.2	
30-31.99	30.00	137	10.1	10.1	57.3	
32-33.99	32.00	123	9.1	9.1	66.3	
34-35.99	34.00	113	8.3	8.3	74.6	
36-37.99	36.00	122	9.0	9.0	83.6	
38-39.99	38.00	93	6.8	6.9	90.5	
40-41.99	40.00	58	4.3	4.3	94.8	
42-43.99	42.00	36	2.7	2.7	97.4	
44-45.99	44.00	21	1.5	1.5	99.0	
46-47.99	46.00	9	.7	.7	99.6	
48-49.99	48.00	5	.4	.4	100.0	
Missing	.	1	.1	Missing		
	Total	1358	100.0	100.0		

Valid cases 1357 Missing cases 1

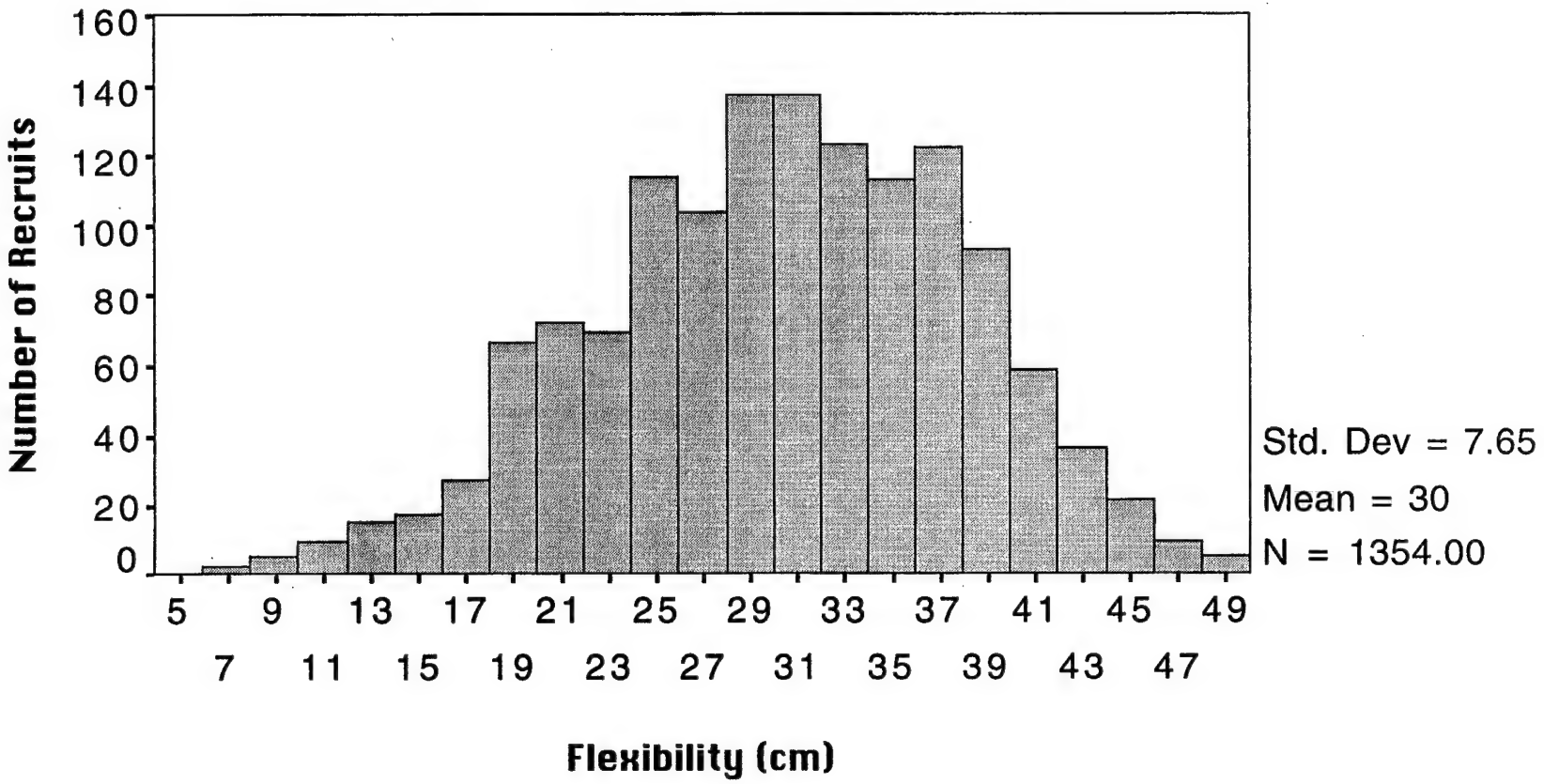
Statistics for AN_FLEX:

Mean	30.099	Median	30.500	Mode	32.000
Std dev	7.774	Variance	60.440	Range	49.200
Minimum	.000	Maximum	49.200		

Valid cases 1357 Missing cases 1

*Note: AN_FLEX is an average of three measurements

FB '89 FLEXIBILITY DISTRIBUTION



FB Charts: FB Flex 12/31/96

Flexibility Categories: 4-5.99, 6-7.99, 8-9.99, ..., 48-49.99

AN__FT_L (cm) Foot Length of MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
10-10.99	10.00	1	.1	.1	.1	
						Data above this line
20-20.99	20.00	2	.1	.1	.2	not shown on graph
22-22.99	22.00	2	.1	.1	.4	
23-23.99	23.00	15	1.1	1.1	1.5	
24-24.99	24.00	76	5.6	5.6	7.1	
25-25.99	25.00	242	17.8	17.9	24.9	
26-26.99	26.00	373	27.5	27.5	52.5	
27-27.99	27.00	348	25.6	25.7	78.2	
28-28.99	28.00	209	15.4	15.4	93.6	
29-29.99	29.00	72	5.3	5.3	98.9	
30-30.99	30.00	12	.9	.9	99.8	
31-31.99	31.00	3	.2	.2	100.0	
Missing	.	3	.2	Missing		
	Total	1358	100.0	100.0		

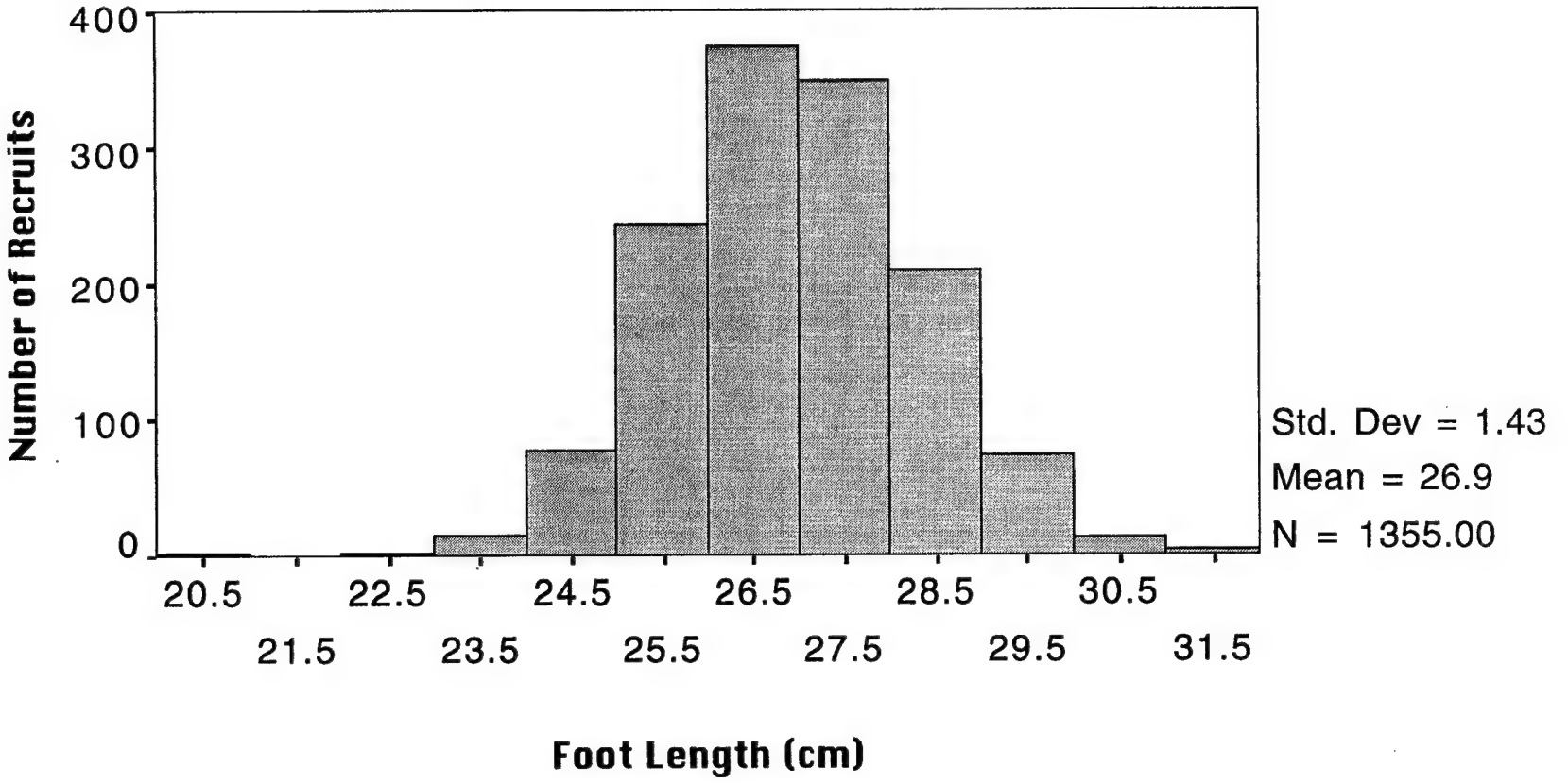
Valid cases 1355 Missing cases 3

Statistics for AN__FT_L (cm):

Mean	26.857	Median	26.900	Mode	27.000
Std dev	1.430	Variance	2.046	Range	20.600
Minimum	10.800	Maximum	31.400		

Valid cases 1355 Missing cases 3

FB '89 FOOT LENGTH DISTRIBUTION



Foot Length (cm)

FB Charts: FB Foot Length 1/9/97

Foot Length Categories: 20-20.99, 21-21.99, 22-22.99, ..., 31-31.99

MPJ_FL2 (cm) MPJ Foot Length of MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
10-10.99	10.00	1	.1	.1	.1	
						Data above this line
15-15.99	15.00	1	.1	.1	.1	not shown on graph
16-16.99	16.00	14	1.0	1.0	1.2	
17-17.99	17.00	132	9.7	9.7	10.9	
18-18.99	18.00	235	17.3	17.3	28.3	
19-19.99	19.00	457	33.7	33.7	62.0	
20-20.99	20.00	336	24.7	24.8	86.8	
21-21.99	21.00	154	11.3	11.4	98.2	
22-22.99	22.00	23	1.7	1.7	99.9	
23-23.99	23.00	1	.1	.1	99.9	
						Data below this line
26-26.99	26.00	1	.1	.1	100.0	not shown on graph
Missing	.	3	.2	Missing		
	Total	1358	100.0	100.0		

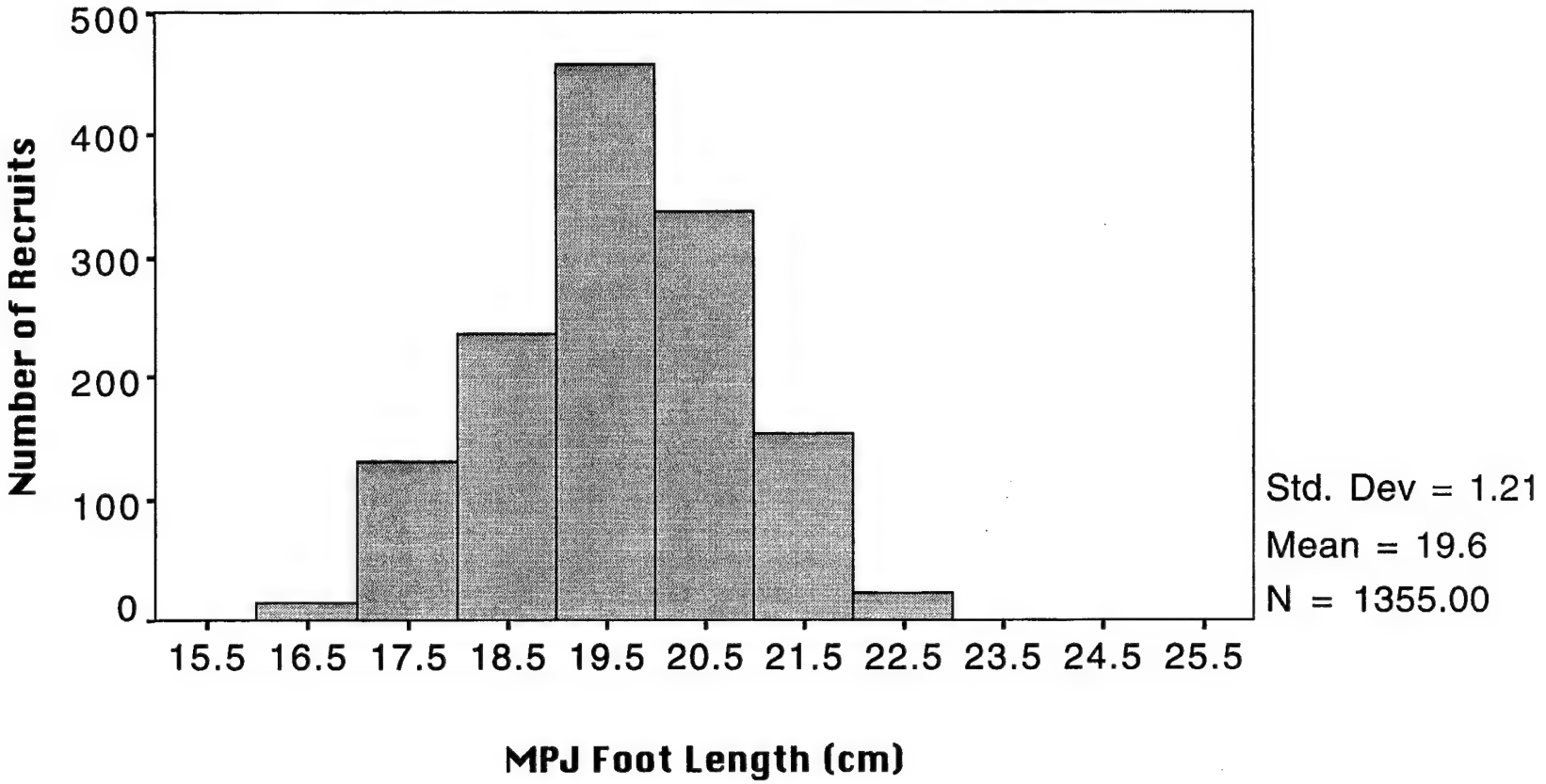
Valid cases 1355 Missing cases 3

Statistics for AN_MPJ_F (cm):

Mean	19.564	Median	19.600	Mode	19.600
Std dev	1.215	Variance	1.476	Range	15.300
Minimum	10.700	Maximum	26.000		

Valid cases 1355 Missing cases 3

FB '89 MPJ FOOT LENGTH DISTRIBUTION



FB Charts: FB MPJ FL 12/30/96

MPJ Foot Length Categories: 10-10.99, 11-11.99, 12-12.99, ..., 25-25.99

AN_FW_WD (cm) Foot Width of MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
5.5-5.99	5.50	1	.1	.1	.1	
						Data above this line
8.5-8.99	8.50	1	.1	.1	.1	not shown on graph
9.0-9.49	9.00	46	3.4	3.4	3.5	
9.5-9.99	9.50	249	18.3	18.4	21.9	
10.0-10.49	10.00	498	36.7	36.8	58.7	
10.5-10.99	10.50	422	31.1	31.1	89.8	
11.0-11.49	11.00	104	7.7	7.7	97.5	
11.5-11.99	11.50	29	2.1	2.1	99.6	
12.0-12.49	12.00	3	.2	.2	99.9	
						Data below this line
19.5-19.99	19.50	1	.1	.1	99.9	not shown on graph
20.5-20.99	20.50	1	.1	.1	100.0	
Missing	.	3	.2	Missing		
	Total	1358	100.0	100.0		

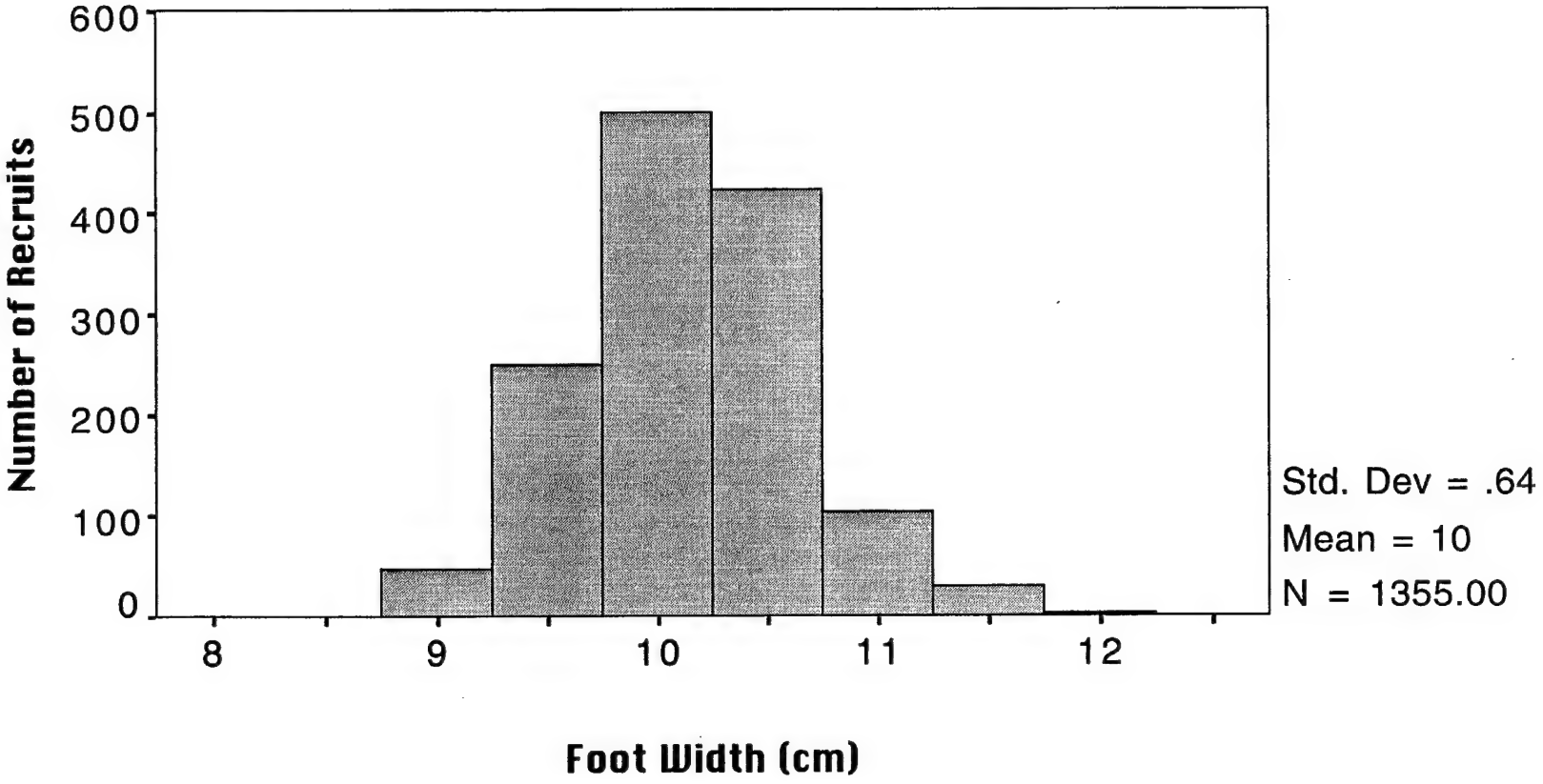
Valid cases 1355 Missing cases 3

Statistics for AN_FT_WD (cm):

Mean	10.349	Median	10.300	Mode	10.500
Std dev	.641	Variance	.410	Range	15.000
Minimum	5.500	Maximum	20.500		

Valid cases 1355 Missing cases 3

FB '89 FOOT WIDTH DISTRIBUTION



FB Charts: FB Foot Width 12/30/96

Foot Width Categories: 8-8.49, 8.5-8.99, 9-9.49, ..., 12.5-12.99

30 Dec 96 SPSS 6.1 for the Power Macintosh

AN_NAVHT (cm) Navicular Height Distribution for MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
20-24.99	20.00	24	1.8	1.8	1.8
25-29.99	25.00	66	4.9	4.9	6.6
30-34.99	30.00	212	15.6	15.7	22.3
35-39.99	35.00	290	21.4	21.4	43.7
40-44.99	40.00	367	27.0	27.1	70.8
45-49.99	45.00	232	17.1	17.1	88.0
50-54.99	50.00	124	9.1	9.2	97.1
55-59.99	55.00	29	2.1	2.1	99.3
60-64.99	60.00	7	.5	.5	99.8
65-69.99	65.00	2	.1	.1	99.9
75-79.99	75.00	1	.1	.1	100.0
Missing	.	4	.3	Missing	
	Total	1358	100.0	100.0	

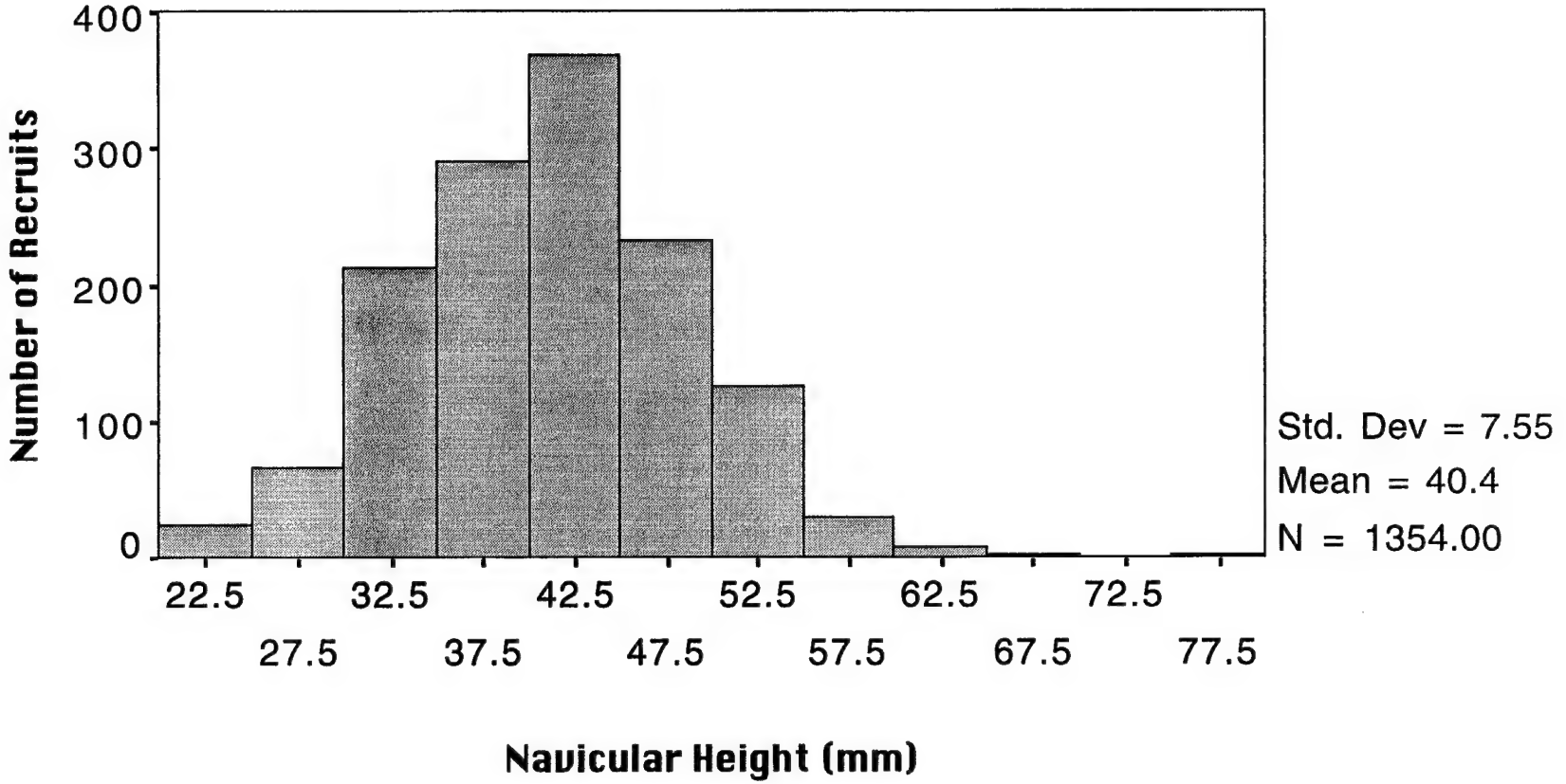
Valid cases 1354 Missing cases 4

Statistics for AN_NAVHT (mm):

Mean	40.373	Median	40.000	Mode	40.000
Std dev	7.554	Variance	57.066	Range	57.000
Minimum	20.000	Maximum	77.000		

Valid cases 1354 Missing cases 4

FB '89 NAVICULAR HEIGHT DISTRIBUTION



FB Charts: FB Nav Ht 12/30/96

Nav Ht Categories: 20-24.99, 25-29.99, 30-34.99, ..., 75-79.99

30 Dec 96 SPSS 6.1 for the Power Macintosh

AN_DR_HT (mm) Dorsum Height Distribution for MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
30-34.99	30.00	1	.1	.1	.1
40-44.99	40.00	9	.7	.7	.7
45-49.99	45.00	36	2.7	2.7	3.4
50-54.99	50.00	106	7.8	7.8	11.2
55-59.99	55.00	204	15.0	15.1	26.3
60-64.99	60.00	320	23.6	23.6	49.9
65-69.99	65.00	373	27.5	27.5	77.4
70-74.99	70.00	221	16.3	16.3	93.7
75-79.99	75.00	67	4.9	4.9	98.7
80-84.99	80.00	17	1.3	1.3	99.9
95-99.99	95.00	1	.1	.1	100.0
Missing	.	3	.2	Missing	
	Total	1358	100.0	100.0	

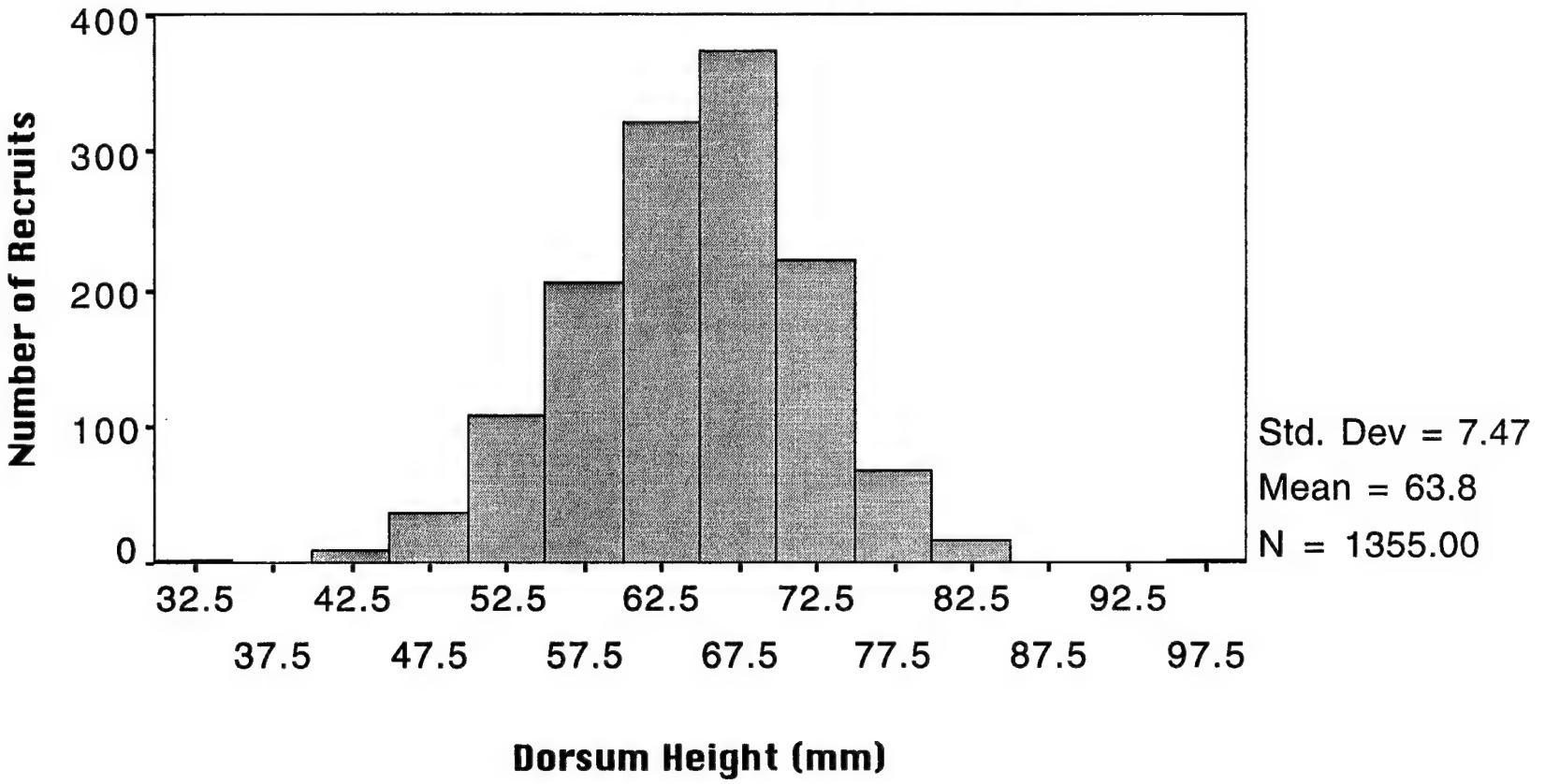
Valid cases 1355 Missing cases 3

Statistics for AN_DR_HT (mm):

Mean	63.827	Median	65.000	Mode	67.000
Std dev	7.471	Variance	55.821	Range	68.000
Minimum	30.000	Maximum	98.000		

Valid cases 1355 Missing cases 3

FB '89 DORSUM HEIGHT DISTRIBUTION



FB Charts: FB Dorsum HT 12/30/96

Dorsum Height Categories: 30-34.99, 35-39.99, 40-44.99, ..., 95-99.99

30 Dec 96 SPSS 6.1 for the Power Macintosh

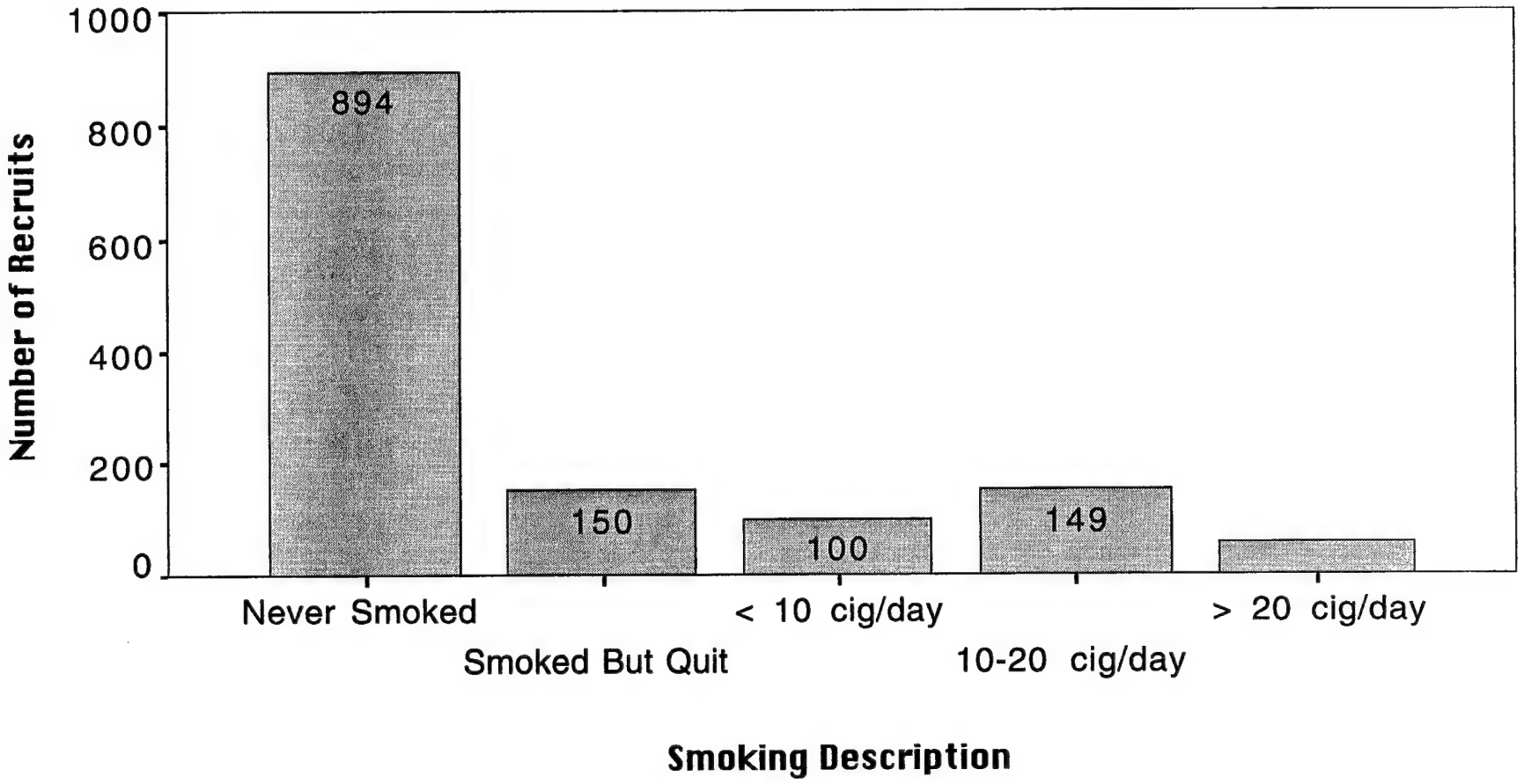
Q_SMOKE Number of cigarettes smoked per day(MALES)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Never Smoked	1.00	894	65.8	66.3	66.3
Smoked but Quit	2.00	150	11.0	11.1	77.4
< 10 cig/day	3.00	100	7.4	7.4	84.8
10-20 cig/day	4.00	149	11.0	11.0	95.8
> 20 cig/day	5.00	56	4.1	4.2	100.0
Unknown	.00	8	.6	Missing	
	Total	1357	100.0	100.0	

Valid cases 1349 Missing cases 8

Note: Actual Question Asked: Which of the following BEST describes your smoking history (before entering the Army)?

FB '89 SMOKING DISTRIBUTION



FB Charts: FB Smoke 1/9/97

30 Dec 96 SPSS 6.1 for the Power Macintosh

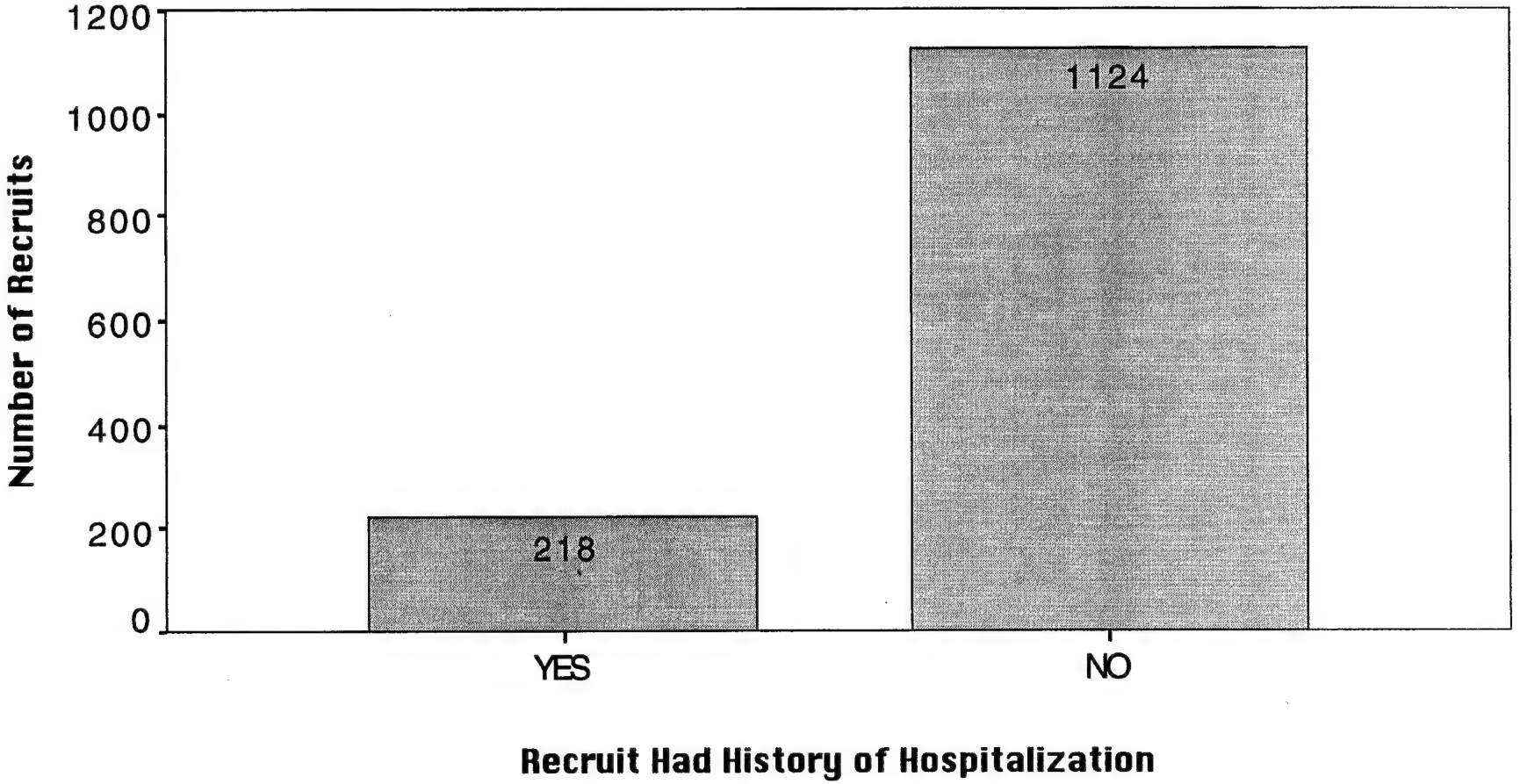
Q_HOSP Had recruit been Hospitalized

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
YES	1.00	218	16.1	16.2	16.2
NO	2.00	1124	82.8	83.8	100.0
UNKNOWN	.00	15	1.1	Missing	
	Total	1357	100.0	100.0	

Valid cases 1342 Missing cases 15

Actual question asked: Have you ever had an accident or injury that caused you to be in the hospital overnight?

FB '89 HISTORY OF HOSPITALIZATION DISTRIBUTION



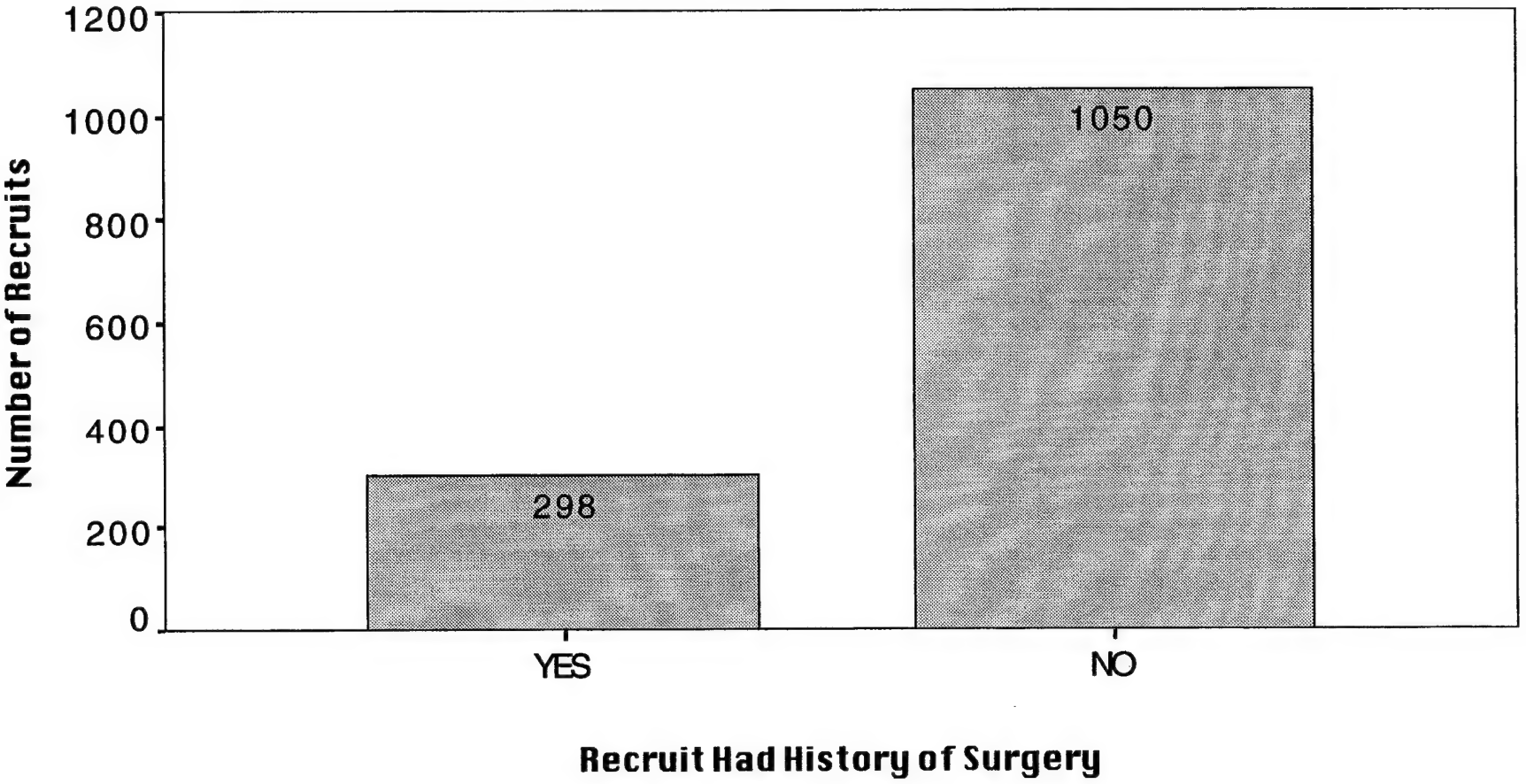
FB Charts: FB Hosp 1/9/97

Q_SURGER Has recruit ever had an injury or accident that required surgery?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
YES	1.00	298	21.9	22.1	22.1
NO	2.00	1050	77.3	77.9	100.0
UNKNOWN	.00	9	.7	Missing	
	Total	1357	100.0	100.0	

Valid cases 1348 Missing cases 9

FB '89 SURGERY DISTRIBUTION



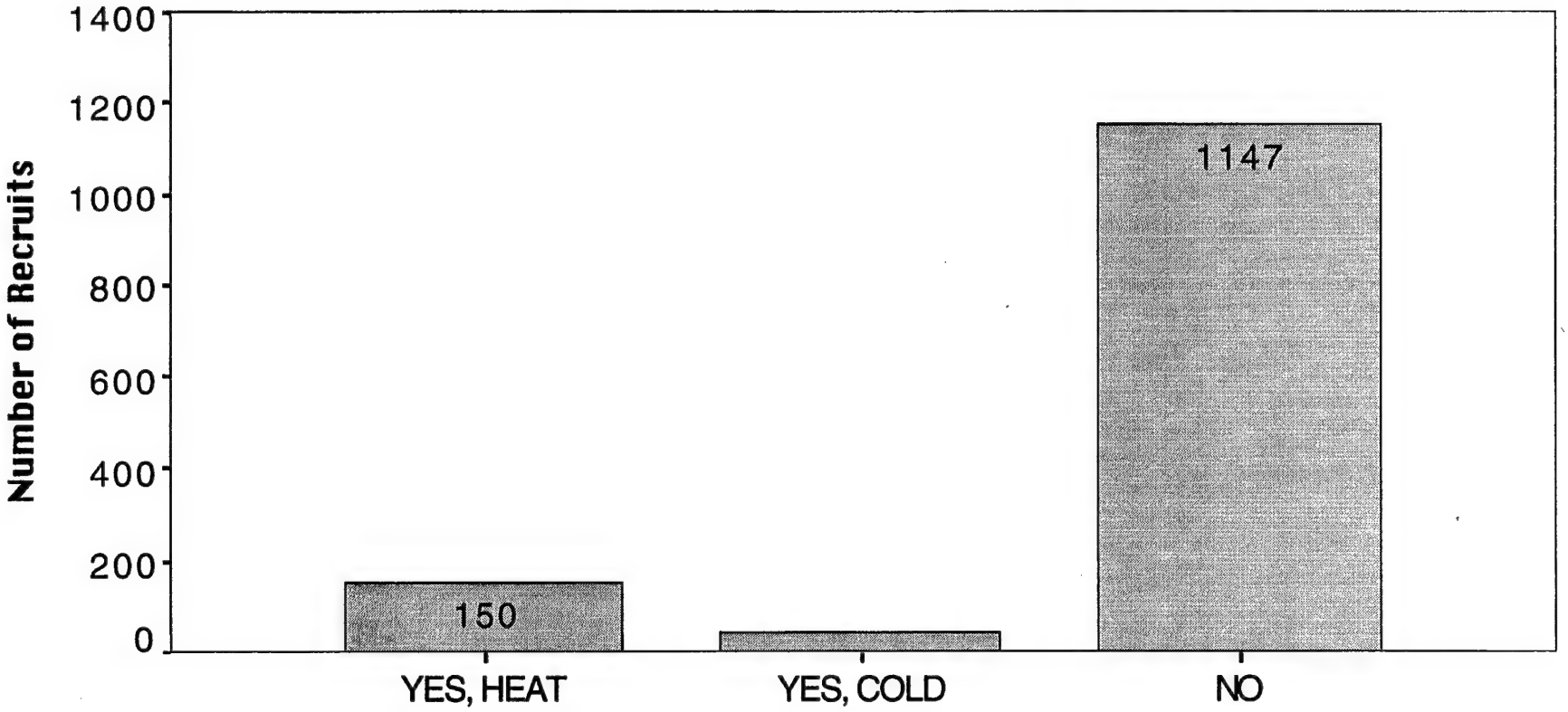
FB Charts: FB Surgery 1/9/97

Q_TEMPIN Had recruit ever suffered a heat or cold injury?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
YES, HEAT	1.00	150	11.0	11.2	11.2
YES, COLD	2.00	44	3.2	3.3	14.5
NO	3.00	1147	84.5	85.5	100.0
UNKNOWN	.00	16	1.2	Missing	
	Total	1357	100.0	100.0	

Valid cases 1341 Missing cases 16

FB '89 TEMPERATURE INJURY DISTRIBUTION



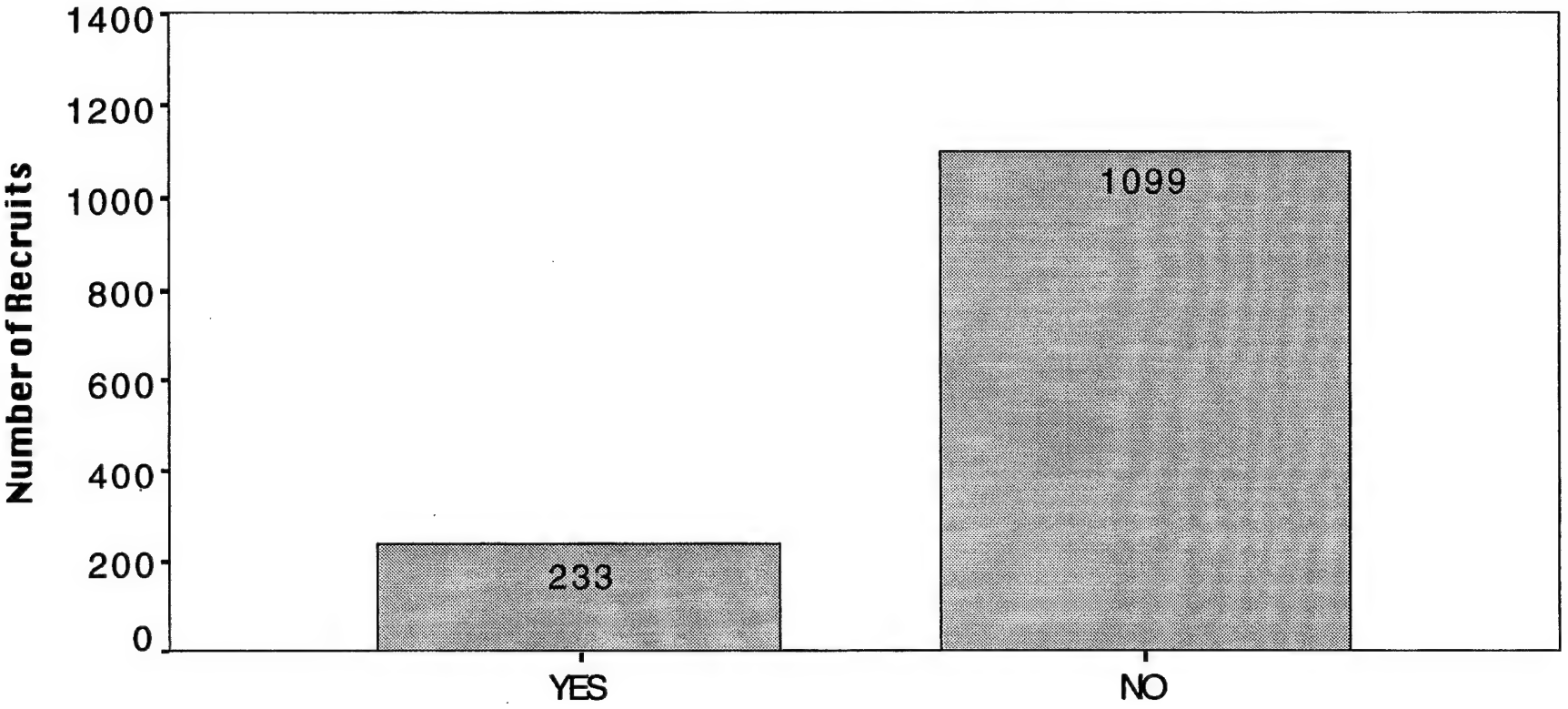
FB Charts: FB TempInj 1/9/97

Q_DISEAS Has recruit ever been hospitalized overnight for the treatment of a serious illness or disease?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
YES	1.00	233	17.2	17.5	17.5
NO	2.00	1099	80.9	82.5	100.0
UNKNOWN	.00	25	1.8	Missing	
	Total	1357	100.0	100.0	

Valid cases 1332 Missing cases 25

FB '89 HISTORY OF DISEASE DISTRIBUTION

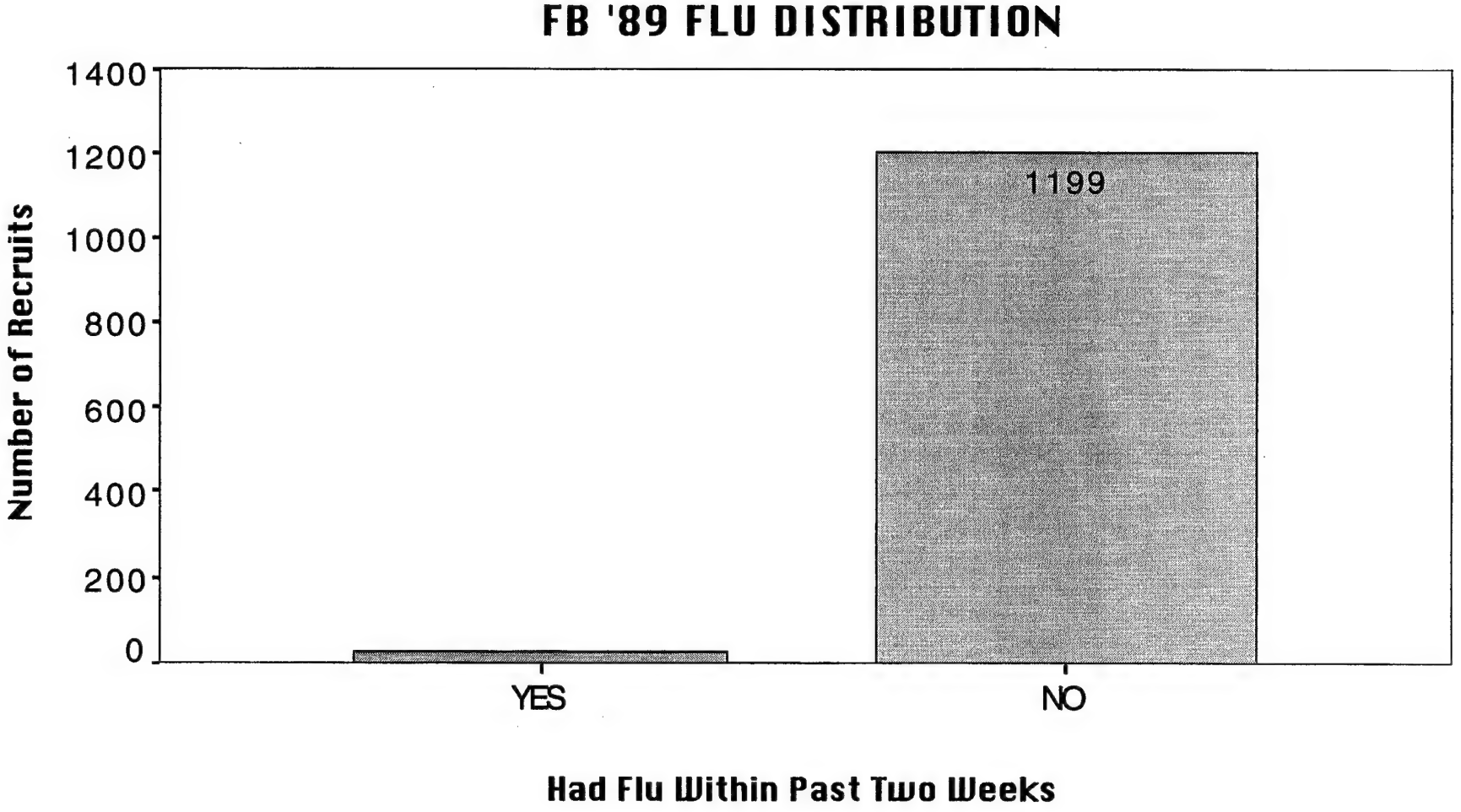


FB Charts: FB Disease 1/9/97

Q_FLU Has recruit had flu in past two weeks?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
YES	1.00	25	1.8	2.0	2.0
NO	2.00	1199	88.3	98.0	100.0
UNKNOWN	.00	133	9.8	Missing	
	Total	1357	100.0	100.0	

Valid cases 1224 Missing cases 133



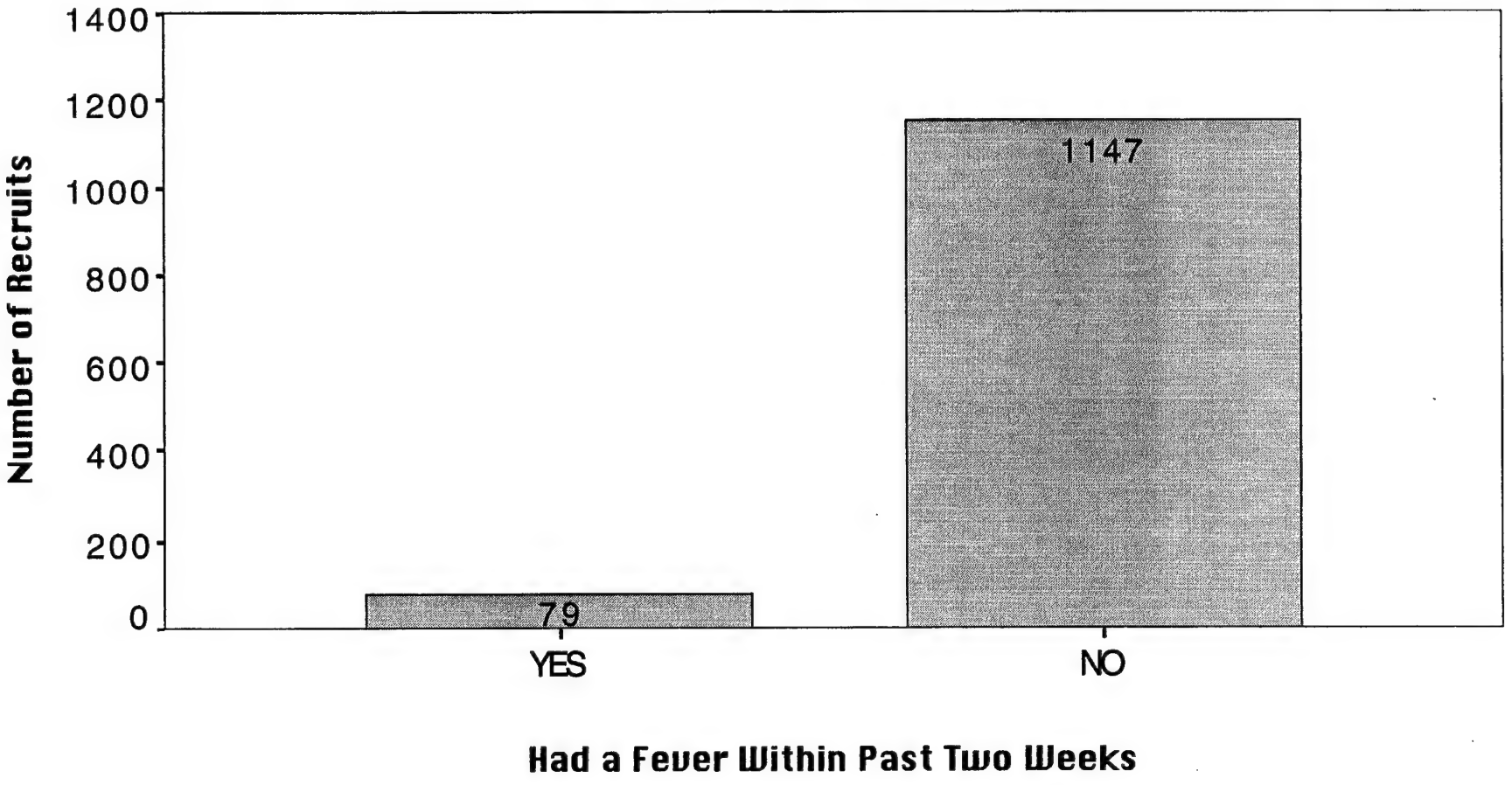
FB Charts: FB Flu 1/9/97

Q_FEVER Has recruit had fever in past two weeks?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
YES	1.00	79	5.8	6.4	6.4
NO	2.00	1147	84.5	93.6	100.0
UNKNOWN	.00	131	9.6	Missing	
	Total	1357	100.0	100.0	

Valid cases 1226 Missing cases 131

FB '89 FEVER DISTRIBUTION



FB Charts: FB Fever 1/9/97

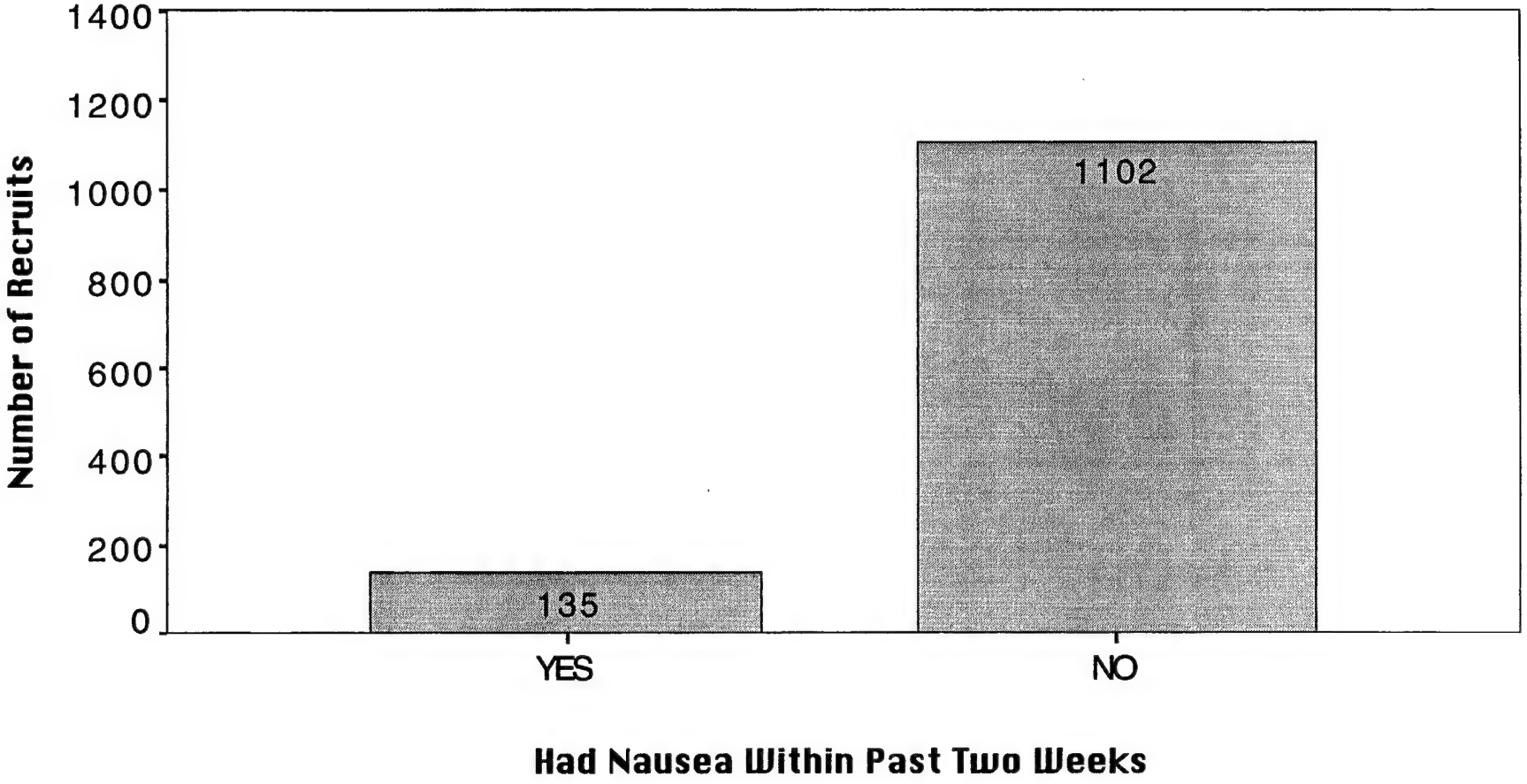
30 Dec 96 SPSS 6.1 for the Power Macintosh

Q_NAUSEA Has recruit had nausea in past two weeks?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
YES	1.00	135	9.9	10.9	10.9
NO	2.00	1102	81.1	89.1	100.0
UNKNOWN	.00	120	8.8	Missing	
	Total	1357	100.0	100.0	

Valid cases 1237 Missing cases 120

FB '89 NAUSEA DISTRIBUTION



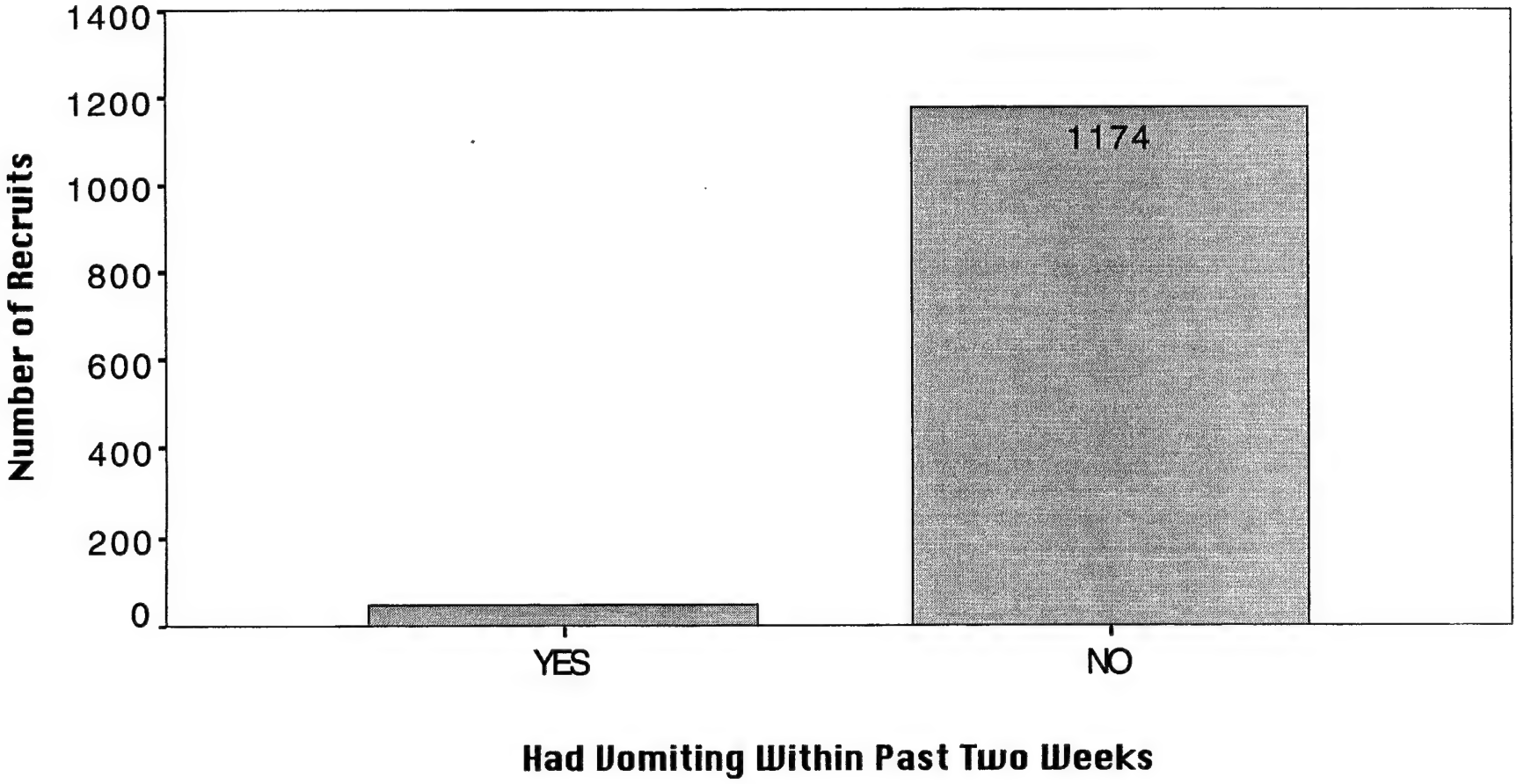
FB Charts: FB Nausea 1/9/97

Q_VOMIT Has recruit vomited in past two weeks?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
YES	1.00	48	3.5	3.9	3.9
NO	2.00	1174	86.5	96.1	100.0
UNKNOWN	.00	135	9.9	Missing	
	Total	1357	100.0	100.0	

Valid cases 1222 Missing cases 135

FB '89 VOMITING DISTRIBUTION



FB Charts: FB Vomiting 1/9/97

Q_PHYSAC Physical Activity Level

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Very Inactive	1.00	12	.9	.9	.9
Somewhat Inactive	2.00	78	5.7	5.8	6.6
Average	3.00	471	34.7	34.8	41.4
Active	4.00	547	40.3	40.4	81.8
Very Active	5.00	247	18.2	18.2	100.0
Unknown	.00	2	.1	Missing	
	Total	1357	100.0	100.0	

Valid cases 1355 Missing cases 2

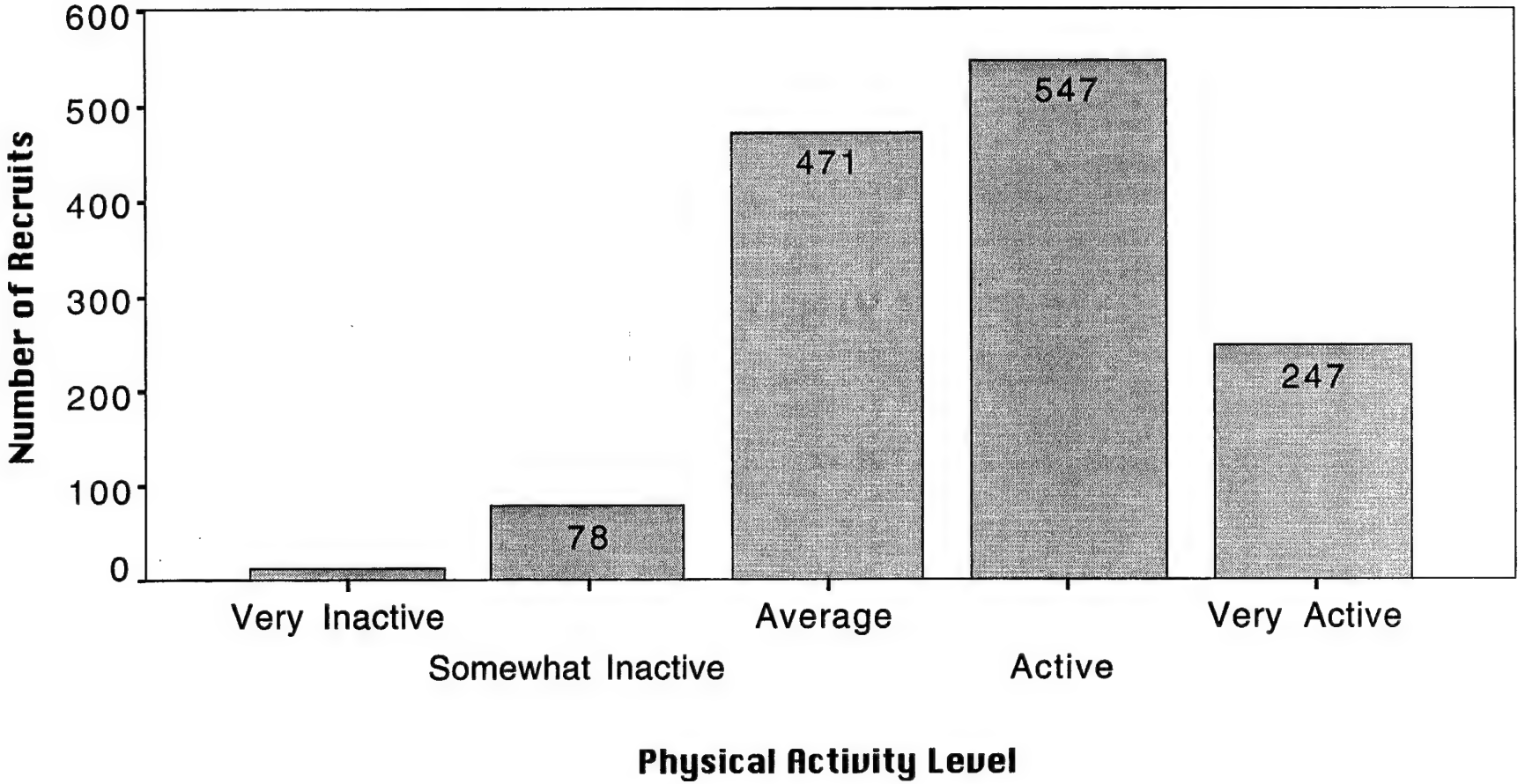
Statistics for Q_PHYSAC:

Mean	3.693	Median	4.000	Mode	4.000
Std dev	.864	Variance	.746	Range	4.000
Minimum	1.000	Maximum	5.000		

Valid cases 1355 Missing cases 2

Actual Question asked: In regards to your overall physical activity level how would you describe your life compared to others of your age and sex?

FB '89 PHYSICAL ACTIVITY LEVEL DISTRIBUTION



FB Charts: FB Phys Act 1/9/97

Q_PHYSFI Physical Fitness Level

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Poor	1.00	7	.5	.5	.5
Below Average	2.00	125	9.2	9.3	9.8
Average	3.00	705	51.9	52.2	62.0
Above Average	4.00	438	32.3	32.4	94.4
Excellent	5.00	76	5.6	5.6	100.0
Unknown	.00	6	.4	Missing	
	Total	1357	100.0	100.0	

Valid cases 1351 Missing cases 6

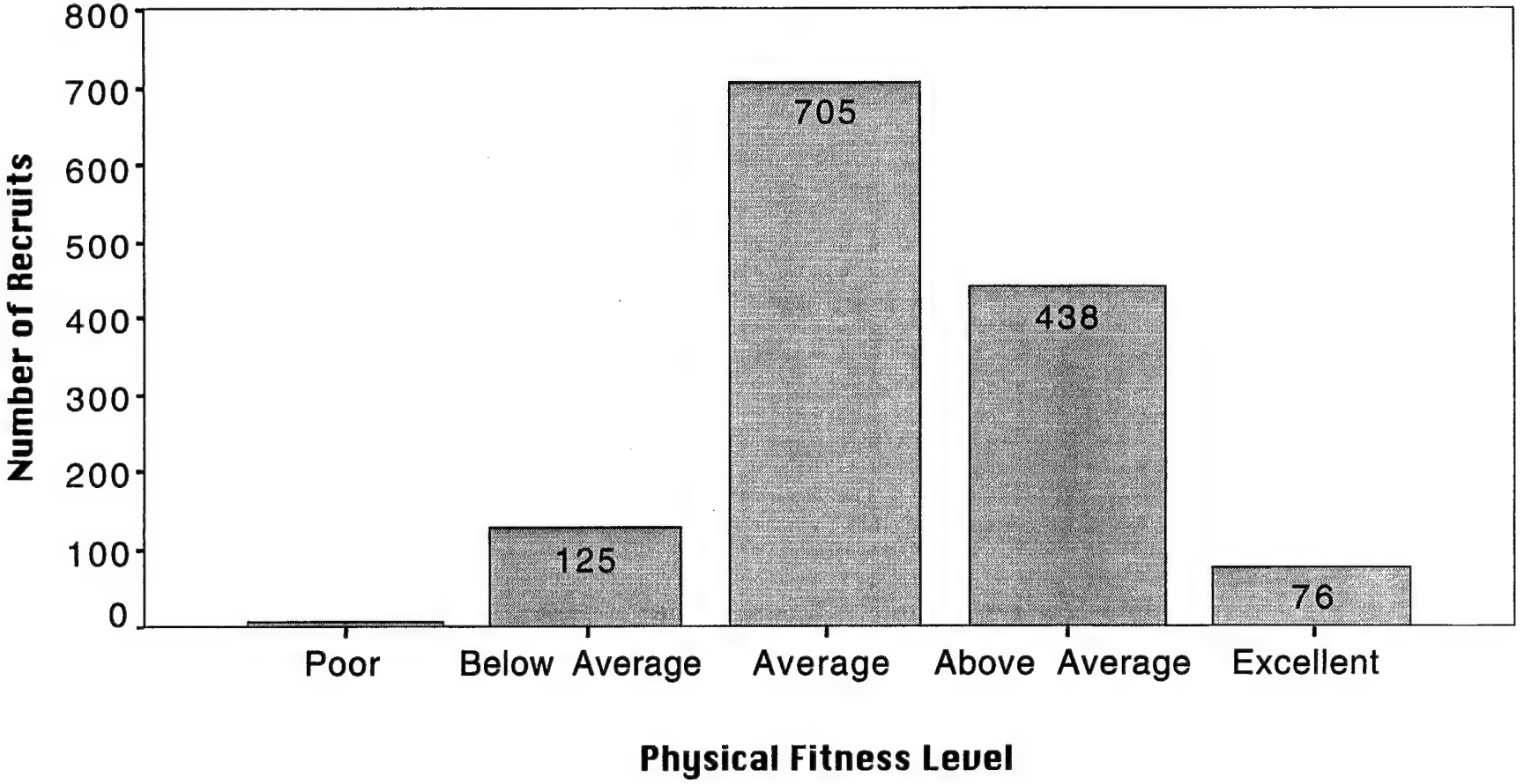
Statistics for Q_PHYSFI:

Mean	3.334	Median	3.000	Mode	3.000
Std dev	.743	Variance	.551	Range	4.000
Minimum	1.000	Maximum	5.000		

Valid cases 1351 Missing cases 6

Actual question asked: Compared to others of your same age and sex, how would you rate your physical fitness?

FB '89 PHYSICAL FITNESS LEVEL DISTRIBUTION



FB Charts: FB Phys Fit 1/9/97

Q_JOBACT Job Activity Level Distribution

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Sedentary	1.00	135	9.9	10.0	10.0
Light Work	2.00	431	31.7	31.9	41.9
Medium Work	3.00	453	33.4	33.5	75.4
Heavy Work	4.00	233	17.2	17.2	92.7
Very Heavy Work	5.00	99	7.3	7.3	100.0
Unknown	.00	6	.4	Missing	
	Total	1357	100.0	100.0	

Valid cases 1351 Missing cases 6

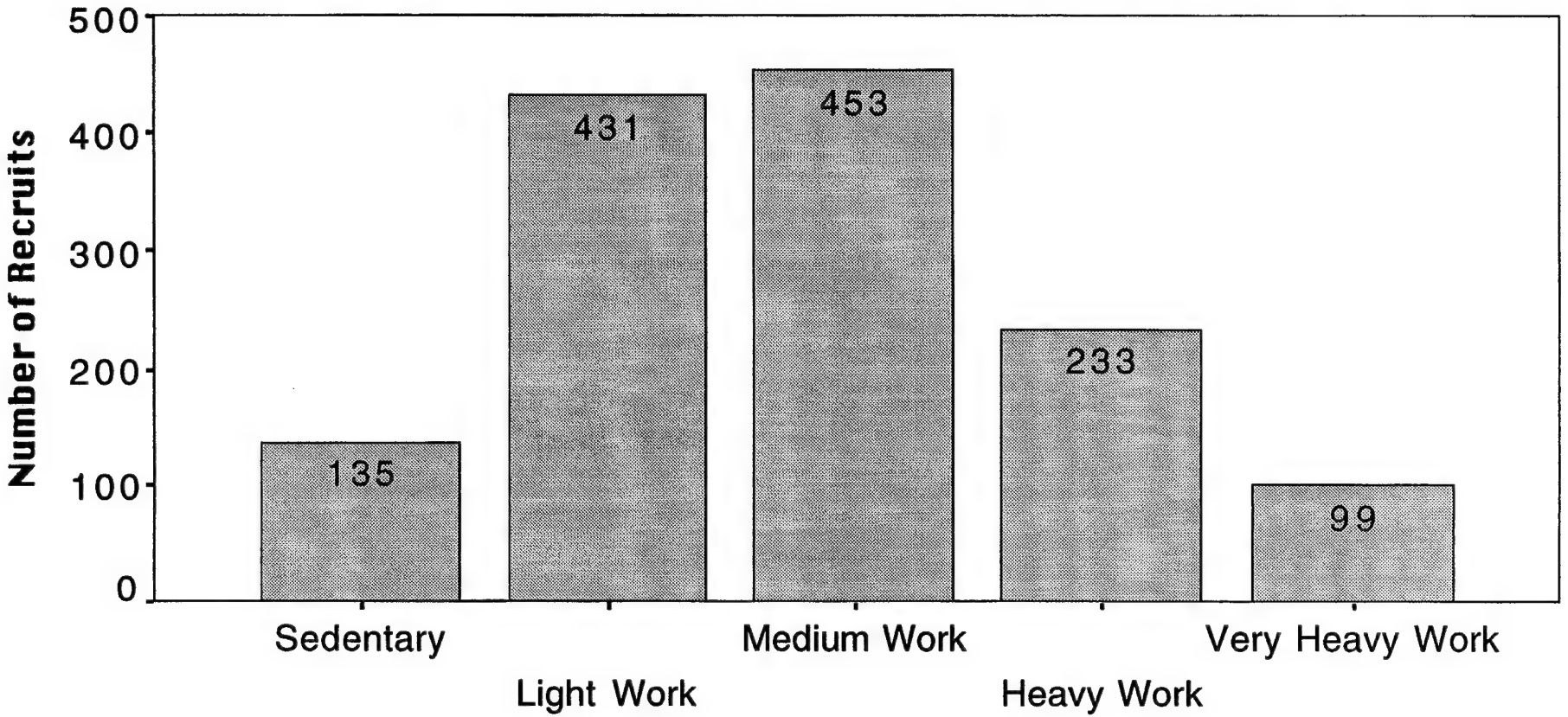
Statistics for Q_JOBACT:

Mean	2.800	Median	3.000	Mode	3.000
Std dev	1.070	Variance	1.145	Range	4.000
Minimum	1.000	Maximum	5.000		

Valid cases 1351 Missing cases 6

Actual question asked: What level of activity describes your most recent job prior to this tour?

FB '89 JOB ACTIVITY LEVEL DISTRIBUTION



FB Charts: FB Job Act 1/9/97

30 Dec 96 SPSS 6.1 for the Power Macintosh

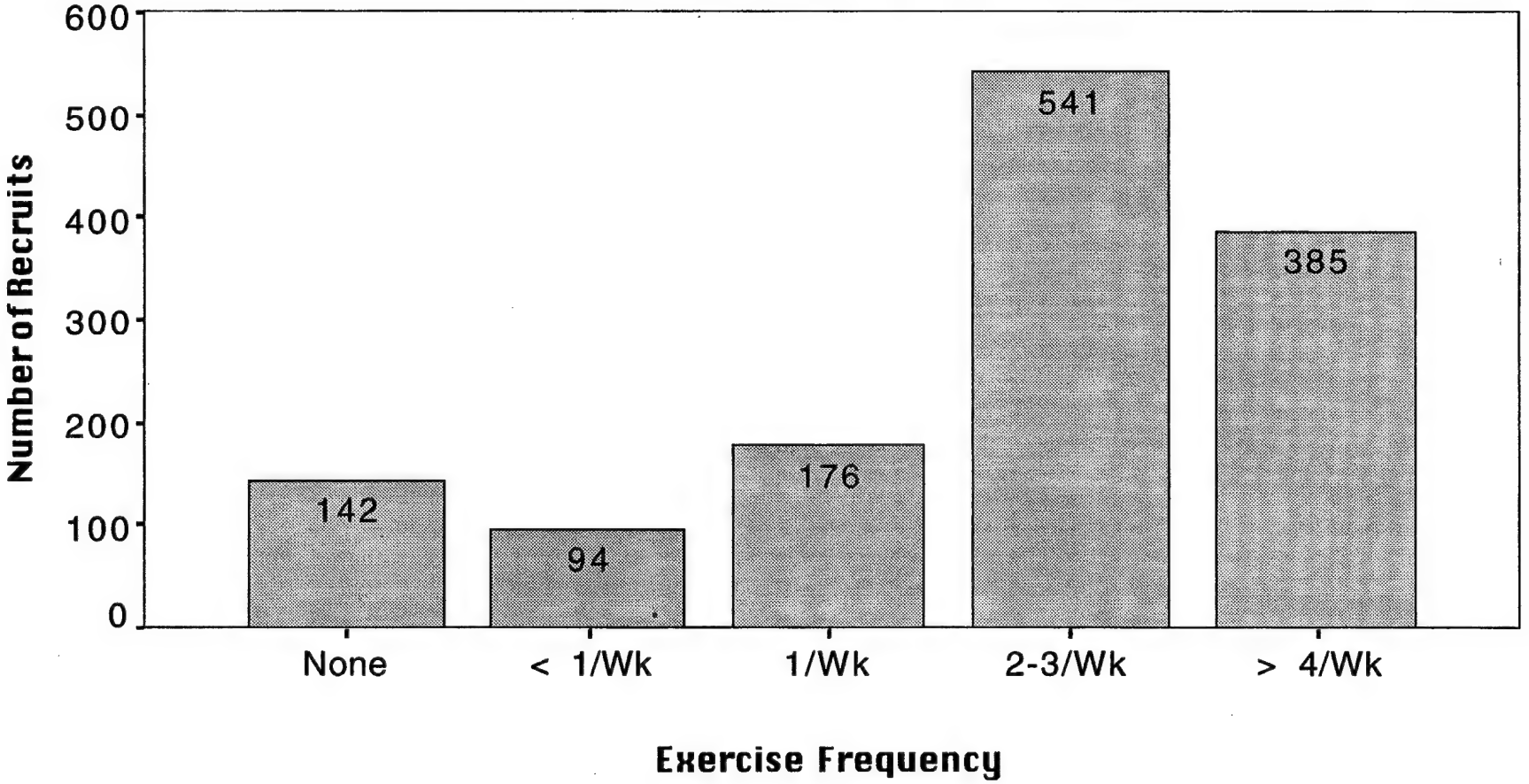
Q_EXERCI Exercise Frequency Distribution for MALE recruits

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None	1.00	142	10.5	10.6	10.6
< 1/WK	2.00	94	6.9	7.0	17.6
1/WK	3.00	176	13.0	13.2	30.8
2-3/WK	4.00	541	39.8	40.4	71.2
> 4/WK	5.00	385	28.4	28.8	100.0
Missing	.00	19	1.4	Missing	
	Total	1357	100.0	100.0	

Valid cases 1338 Missing cases 19

Note: Actual Question Asked: How often did you exercise or play sports for 15 minutes or more (other than running or jogging) in the last month prior to coming into the army?

FB '89 EXERCISE DISTRIBUTION



FB Charts: FB Exercise 1/9/97

30 Dec 96 SPSS 6.1 for the Power Macintosh

PU1_2 Number of Push-Ups Completed by MALE recruits on 1st PT Test

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
0-4	.00	3	.2	.3	.3
5-9	5.00	8	.6	.7	.9
10-14	10.00	24	1.8	2.0	2.9
15-19	15.00	67	4.9	5.6	8.5
20-24	20.00	114	8.4	9.5	18.0
25-29	25.00	130	9.6	10.9	28.9
30-34	30.00	219	16.1	18.3	47.2
35-39	35.00	173	12.7	14.4	61.6
40-44	40.00	147	10.8	12.3	73.9
45-49	45.00	103	7.6	8.6	82.5
50-54	50.00	81	6.0	6.8	89.2
55-59	55.00	52	3.8	4.3	93.6
60-64	60.00	30	2.2	2.5	96.1
65-69	65.00	22	1.6	1.8	97.9
70-74	70.00	18	1.3	1.5	99.4
75-79	75.00	4	.3	.3	99.7
80-84	80.00	1	.1	.1	99.8
85-89	85.00	1	.1	.1	99.9
90-94	90.00	1	.1	.1	100.0
Missing	.	159	11.8	Missing	
	Total	1357	100.0	100.0	

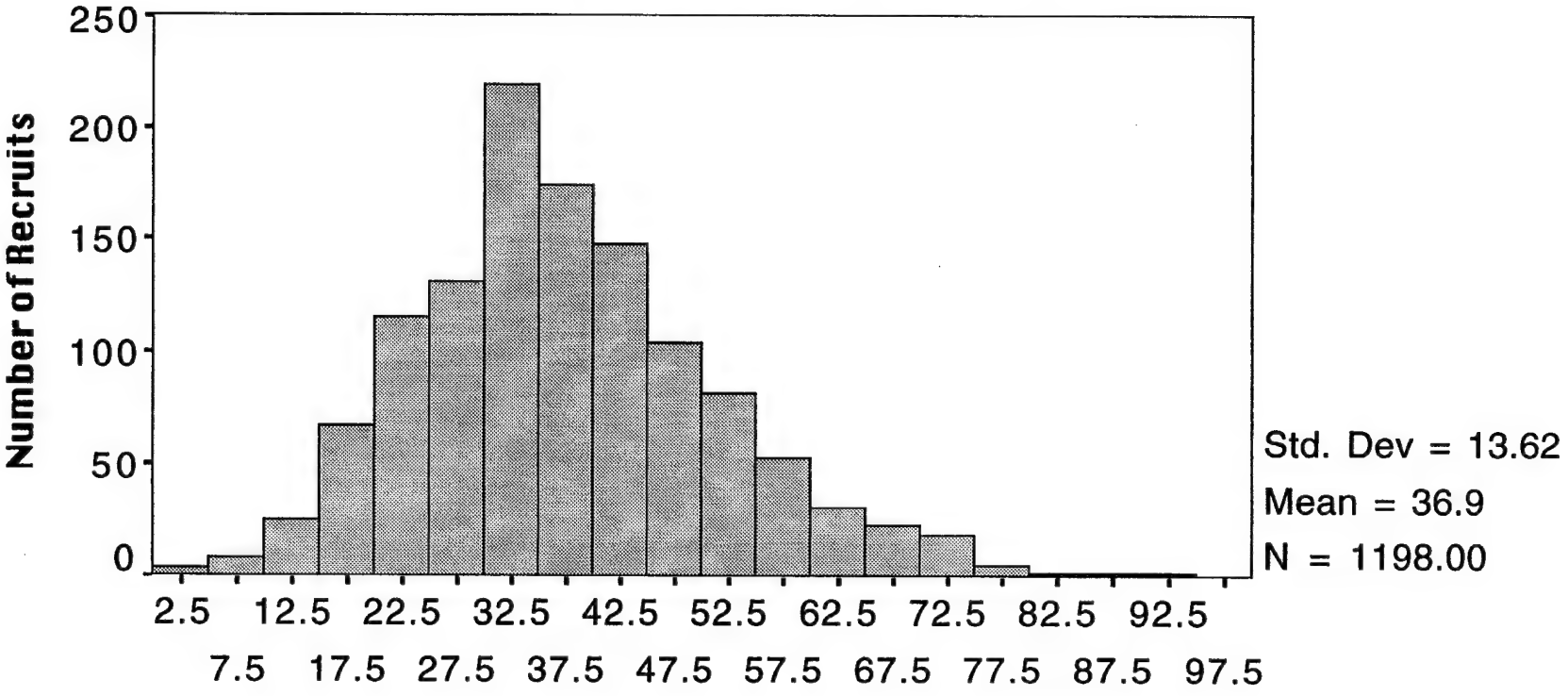
Valid cases 1198 Missing cases 159

Statistics for AP_PU1:

Mean	36.927	Median	35.000	Mode	32.000
Std dev	13.616	Variance	185.384	Range	92.000
Minimum	1.000	Maximum	93.000		

Valid cases 1198 Missing cases 159

FB '89 PT1 PUSH UPS DISTRIBUTION



Number of Push Ups Completed for 1st PT Test

FB Charts: FB PU1 1/3/97

Push-Up Categories: 0-4, 5-9, 10-14, ..., 95-99

30 Dec 96 SPSS 6.1 for the Power Macintosh

SU1_2 Number of Sit-Ups completed by MALE recruits on the 1st PT Test

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
0-4	.00	1	.1	.1	.1
10-14	10.00	2	.1	.2	.2
15-19	15.00	10	.7	.8	1.1
20-24	20.00	18	1.3	1.5	2.6
25-29	25.00	27	2.0	2.2	4.8
30-34	30.00	74	5.4	6.2	11.0
35-39	35.00	94	6.9	7.8	18.8
40-44	40.00	185	13.6	15.4	34.2
45-49	45.00	177	13.0	14.7	49.0
50-54	50.00	186	13.7	15.5	64.4
55-59	55.00	137	10.1	11.4	75.9
60-64	60.00	129	9.5	10.7	86.6
65-69	65.00	64	4.7	5.3	91.9
70-74	70.00	46	3.4	3.8	95.8
75-79	75.00	28	2.1	2.3	98.1
80-84	80.00	10	.7	.8	98.9
85-89	85.00	10	.7	.8	99.8
90-94	90.00	2	.1	.2	99.9
95-99	95.00	1	.1	.1	100.0
Missing	.	156	11.6	Missing	
	Total	1357	100.0	100.0	

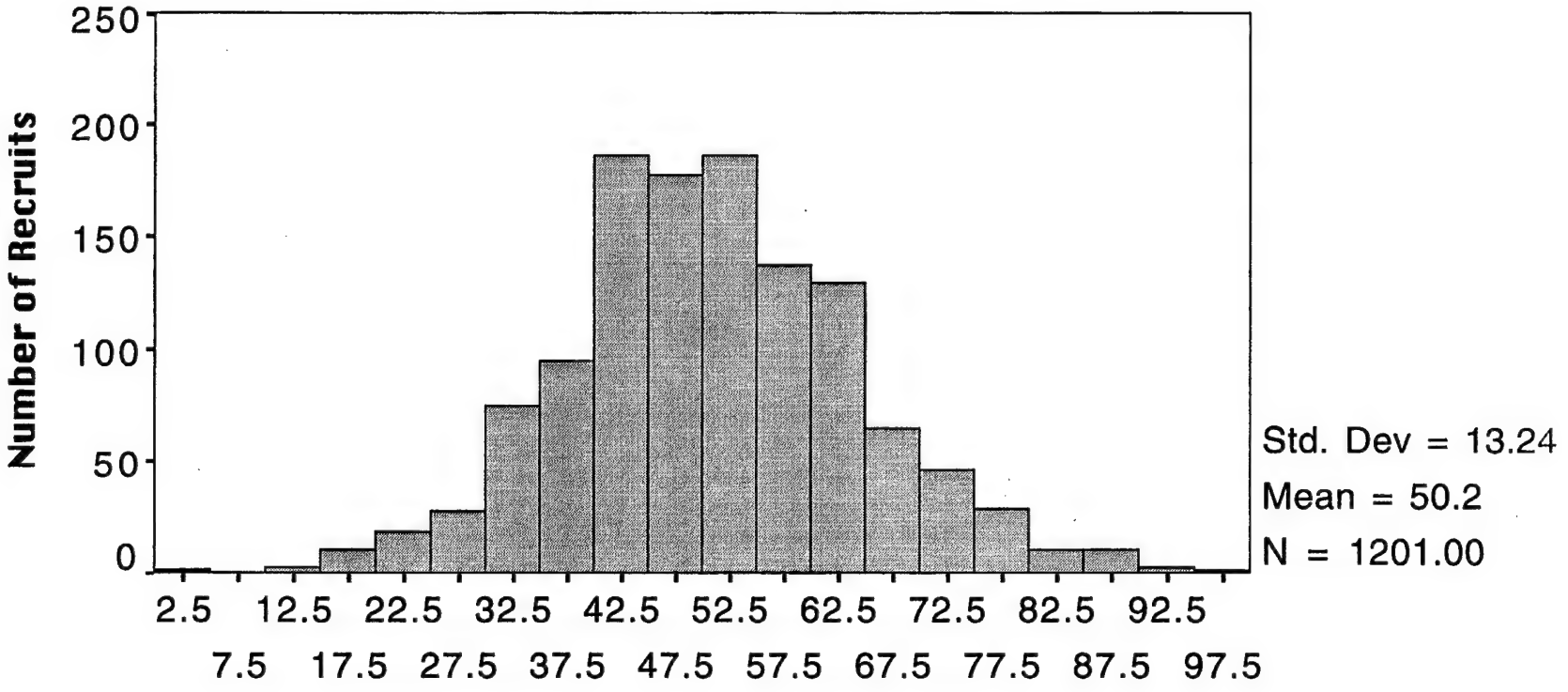
Valid cases 1201 Missing cases 156

Statistics for AP_SU1:

Mean	50.172	Median	50.000	Mode	42.000
Std dev	13.236	Variance	175.204	Range	93.000
Minimum	3.000	Maximum	96.000		

Valid cases 1201 Missing cases 156

FB '89 PT1 SIT-UPS DISTRIBUTION



Number of Sit-Ups Completed for 1st PT Test

FB Charts: FB SU1 1/8/97

Sit-Ups Categories: 0-4, 5-9, 10-14, 15-19, ..., 94-99

30 Dec 96 SPSS 6.1 for the Power Macintosh

RNTM1_2 Run Times of MALE recruits on the 1st PT Test - 2 mile run

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
10-10.99	10.00	2	.1	.2	.2	
11-11.99	11.00	36	2.7	3.0	3.2	
12-12.99	12.00	83	6.1	6.9	10.1	
13-13.99	13.00	127	9.4	10.6	20.7	
14-14.99	14.00	207	15.2	17.3	38.0	
15-15.99	15.00	197	14.5	16.5	54.5	
16-16.99	16.00	200	14.7	16.7	71.2	
17-17.99	17.00	127	9.4	10.6	81.8	
18-18.99	18.00	82	6.0	6.9	88.6	
19-19.99	19.00	36	2.7	3.0	91.6	
20-20.00	20.00	40	2.9	3.3	95.0	
21-21.99	21.00	25	1.8	2.1	97.1	
22-22.99	22.00	14	1.0	1.2	98.2	
23-23.99	23.00	7	.5	.6	98.8	
24-24.99	24.00	3	.2	.3	99.1	
25-25.99	25.00	7	.5	.6	99.7	
26-26.99	26.00	2	.1	.2	99.8	
27-27.99	27.00	1	.1	.1	99.9	
						Data below this line
34-34.99	34.00	1	.1	.1	100.0	not shown on graph
Missing	.	161	11.9	Missing		
	Total	1357	100.0	100.0		

Valid cases 1197 Missing cases 161

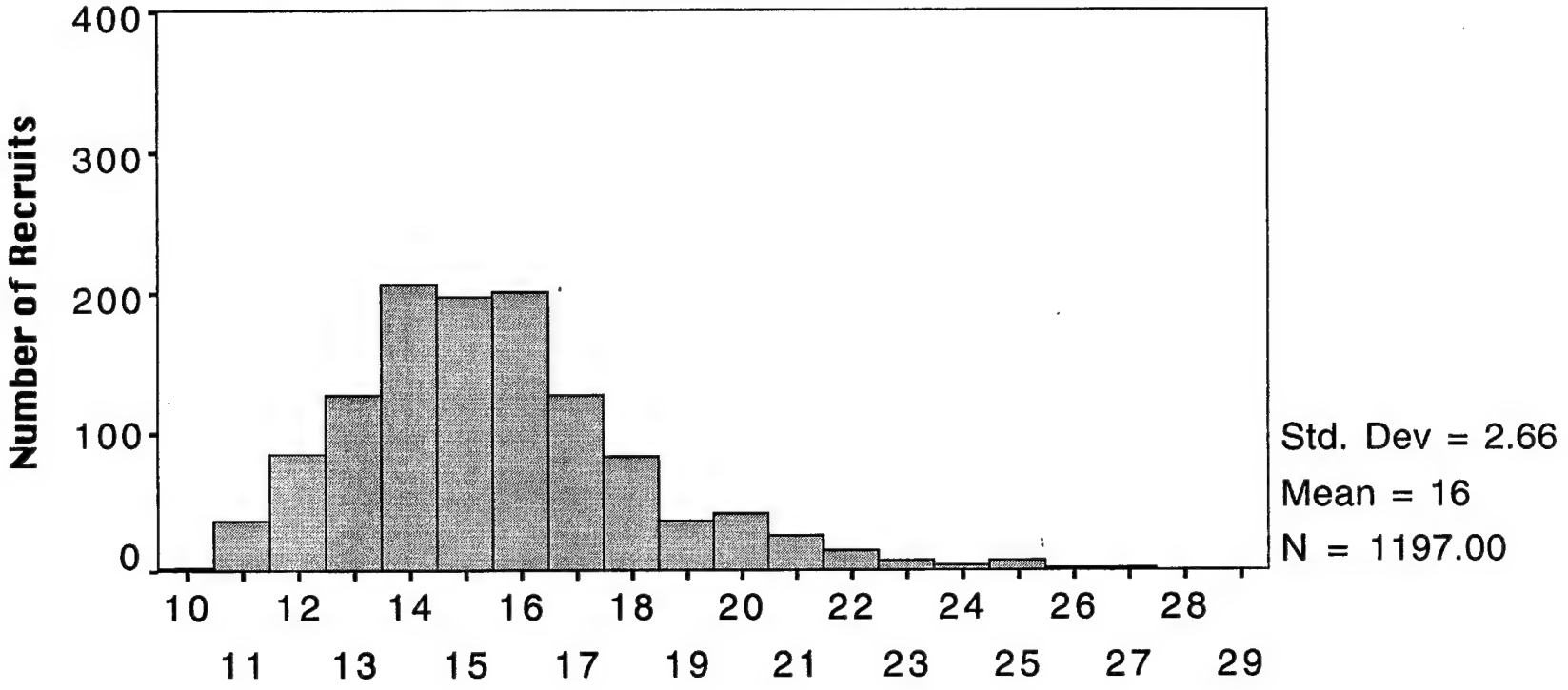
Statistics for AP_RNTM1 (minutes):

Mean	15.993	Median	15.670	Mode	15.420
Std dev	2.656	Variance	7.056	Range	24.230
Minimum	10.650	Maximum	34.880		

* Multiple modes exist. The smallest value is shown.

Valid cases 1197 Missing cases 161

FB '89 PT1 2 MILE RUN TIME DISTRIBUTION



Run Time for 2 mile Run for PT Test 1 (min)

FB Charts: FB Run1 1/9/97

Run Time Categories: 10-10.99, 11-11.99, 12-12.99, ..., 29-29.99

30 Dec 96 SPSS 6.1 for the Power Macintosh

PU4_2 Number of Push-Ups completed by MALE recruits on the 4th PT Test

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
25-29	25.00	6	.4	.5	.5	
30-34	30.00	89	6.6	7.8	8.3	
35-39	35.00	145	10.7	12.6	20.9	
40-44	40.00	172	12.7	15.0	35.9	
45-49	45.00	161	11.9	14.0	50.0	
50-54	50.00	172	12.7	15.0	65.0	
55-59	55.00	128	9.4	11.2	76.1	
60-64	60.00	95	7.0	8.3	84.4	
65-69	65.00	70	5.2	6.1	90.5	
70-74	70.00	35	2.6	3.1	93.5	
75-79	75.00	29	2.1	2.5	96.1	
80-84	80.00	27	2.0	2.4	98.4	
85-89	85.00	8	.6	.7	99.1	
90-94	90.00	4	.3	.3	99.5	
95-99	95.00	4	.3	.3	99.8	
						Data below this line
100-104	100.00	2	.1	.2	100.0	not shown on graph
Missing	999.00	211	15.5	Missing		
	Total	1358	100.0	100.0		

Valid cases 1147 Missing cases 211

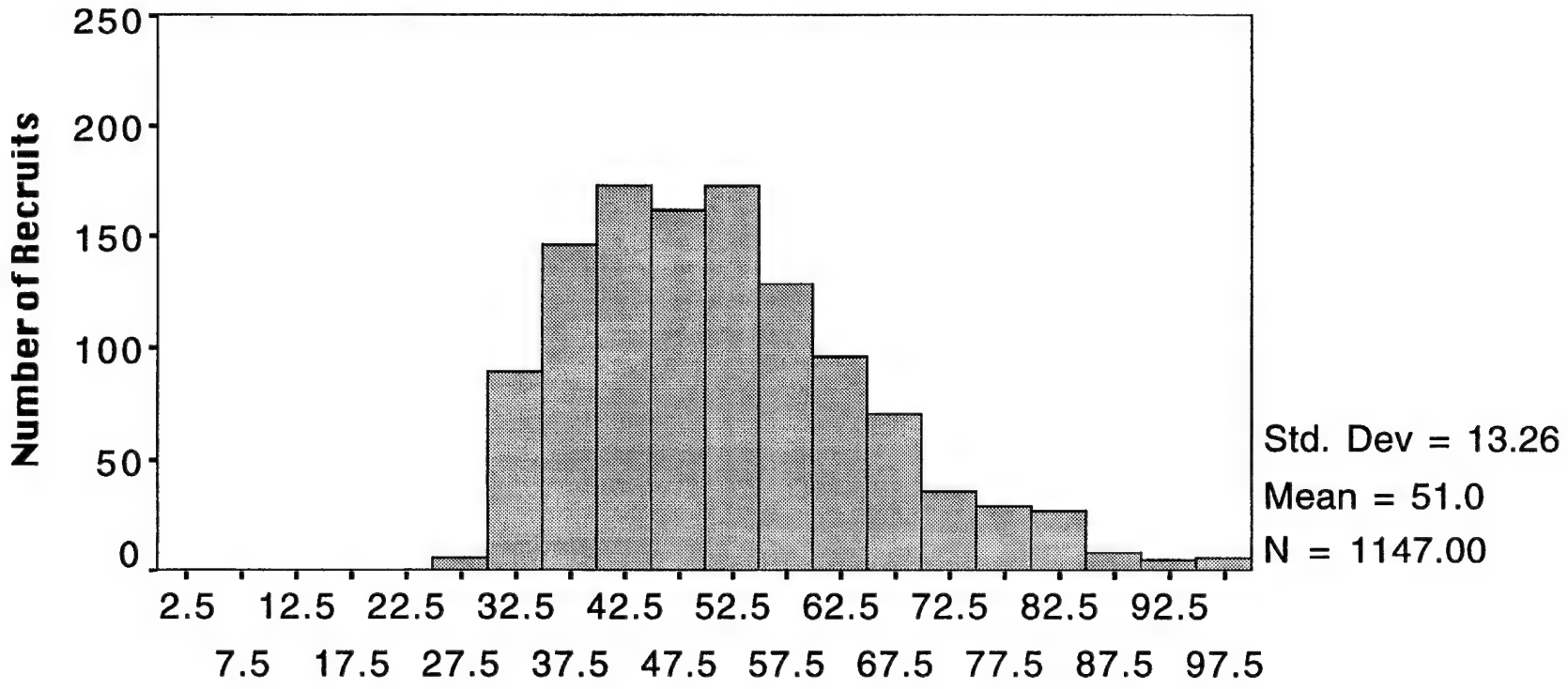
Statistics for AP_PU4:

Mean	50.981	Median	50.000	Mode	40.000
Std dev	13.263	Variance	175.911	Range	76.000
Minimum	26.000	Maximum	102.000		

* Multiple modes exist. The smallest value is shown.

Valid cases 1147 Missing cases 211

FB '89 PT4 PUSH UPS DISTRIBUTION



Number of Push Ups Completed for 4th PT Test

FB Charts: FB PU4 1/3/97

Push-Up Categories: 0-4, 5-9, 10-14, ..., 95-99

30 Dec 96 SPSS 6.1 for the Power Macintosh

SU4_2 Number of Sit-Ups completed by MALE recruits on the 4th PT Test

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
25-29	25.00	1	.1	.1	.1	
30-34	30.00	2	.1	.2	.3	
35-39	35.00	9	.7	.8	1.0	
40-44	40.00	67	4.9	5.8	6.9	
45-49	45.00	69	5.1	6.0	12.9	
50-54	50.00	126	9.3	11.0	23.9	
55-59	55.00	179	13.2	15.6	39.5	
60-64	60.00	200	14.7	17.4	56.9	
65-69	65.00	178	13.1	15.5	72.4	
70-74	70.00	136	10.0	11.9	84.3	
75-79	75.00	76	5.6	6.6	90.9	
80-84	80.00	53	3.9	4.6	95.6	
85-89	85.00	22	1.6	1.9	97.5	
90-94	90.00	20	1.5	1.7	99.2	
95-99	95.00	5	.4	.4	99.7	
						Data below this line
100-104	100.00	3	.2	.3	99.9	not shown on graph
105-109	105.00	1	.1	.1	100.0	
Missing	999.00	211	15.5	Missing		
	Total	1358	100.0	100.0		

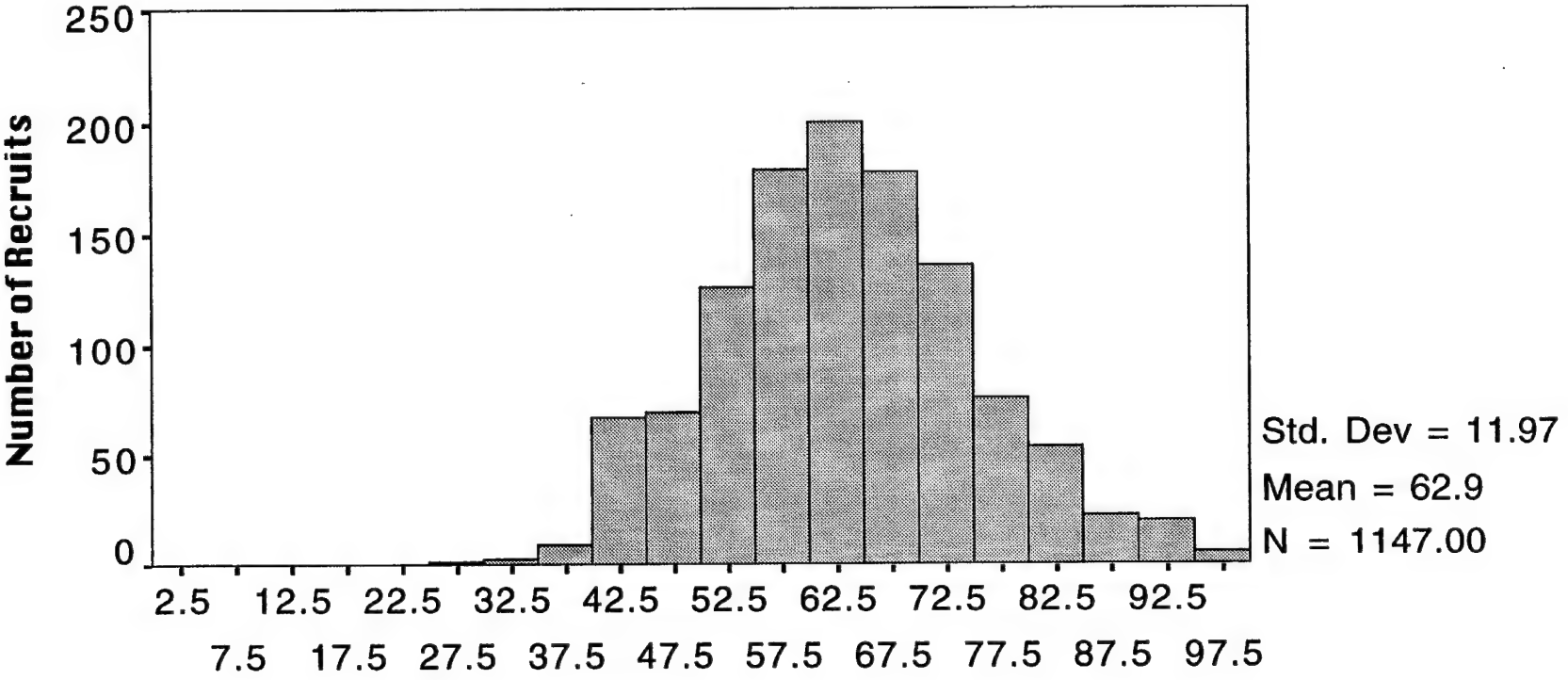
Valid cases 1147 Missing cases 211

Statistics for AP_SU4:

Mean	62.907	Median	62.000	Mode	60.000
Std dev	11.967	Variance	143.205	Range	77.000
Minimum	29.000	Maximum	106.000		

Valid cases 1147 Missing cases 211

FB '89 PT4 SIT-UPS DISTRIBUTION



Number of Sit-Ups Completed for 4th PT Test

FB Charts: FB SU4 1/7/97

Sit-Up Categories: 0-4, 5-9, 10-14, ..., 95-99

RNTM4_2 Run Times of MALE recruits on the 4th PT Test

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
10-10.99	10.00	2	.1	.2	.2
11-11.99	11.00	18	1.3	1.6	1.8
12-12.99	12.00	139	10.2	12.2	14.0
13-13.99	13.00	272	20.0	23.9	37.9
14-14.99	14.00	350	25.8	30.8	68.7
15-15.99	15.00	248	18.3	21.8	90.5
16-16.99	16.00	99	7.3	8.7	99.2
17-17.99	17.00	6	.4	.5	99.7
26-26.99	26.00	1	.1	.1	99.8
28-28.99	28.00	1	.1	.1	99.9
29-29.99	29.00	1	.1	.1	100.0
Missing	.	221	16.3	Missing	
	Total	1358	100.0	100.0	

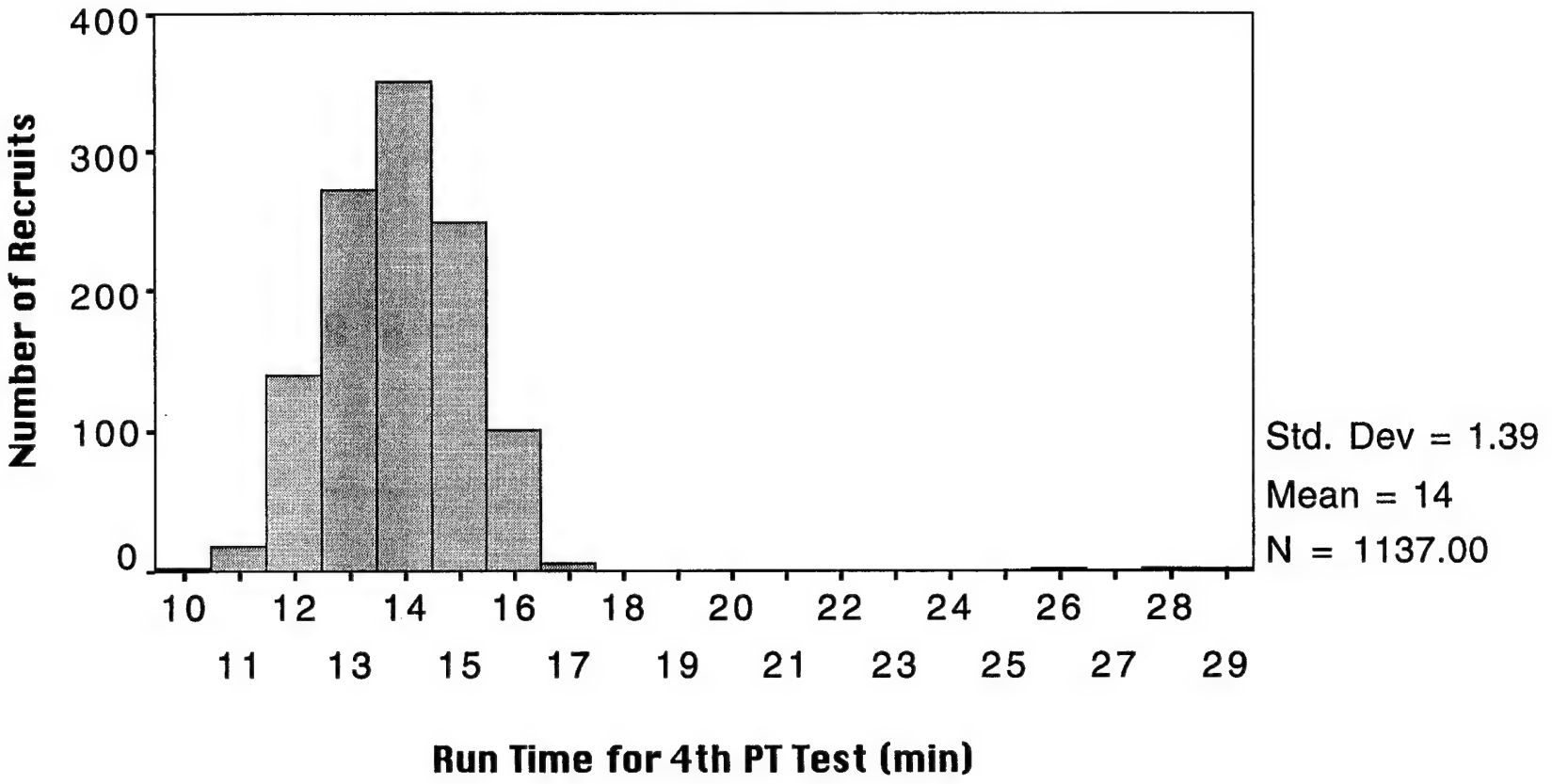
Valid cases 1137 Missing cases 221

Statistics for AP_RNTM4 (minutes):

Mean	14.377	Median	14.330	Mode	14.000
Std dev	1.395	Variance	1.946	Range	18.370
Minimum	10.830	Maximum	29.200		

Valid cases 1137 Missing cases 221

FB '89 PT4 RUN TIME DISTRIBUTION



FB Charts: FB Run4 1/9/97

Run Time Categories: 10-10.99, 11-11.99, 12-12.99, ..., 29-29.99

08 Jan 97 SPSS 6.1 for the Power Macintosh

DEL_PU1 Percent Change from Push-Ups for PT Test 1 to Push-Ups for PT Test 4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
-50-(-.01)	-50.00	75	7.1	7.1	7.1	
0-49.99	.00	582	55.4	55.4	62.6	
50-99.99	50.00	273	26.0	26.0	88.6	
100-149.99	100.00	67	6.4	6.4	95.0	
150-199.99	150.00	26	2.5	2.5	97.4	
200-249.99	200.00	12	1.1	1.1	98.6	
250-299.99	250.00	4	.4	.4	99.0	
300-349.99	300.00	3	.3	.3	99.2	
350-399.99	350.00	2	.2	.2	99.4	
400-449.99	400.00	1	.1	.1	99.5	
450-499.99	450.00	1	.1	.1	99.6	
600-649.99	600.00	1	.1	.1	99.7	
						Data below this line not shown on graph
950-999.99	950.00	1	.1	.1	99.8	
2050-2099.99	2050.00	1	.1	.1	99.9	
4200-4249.99	4200.00	1	.1	.1	100.0	
	Total	1050	100.0	100.0		

Valid cases 1050 Missing cases 0

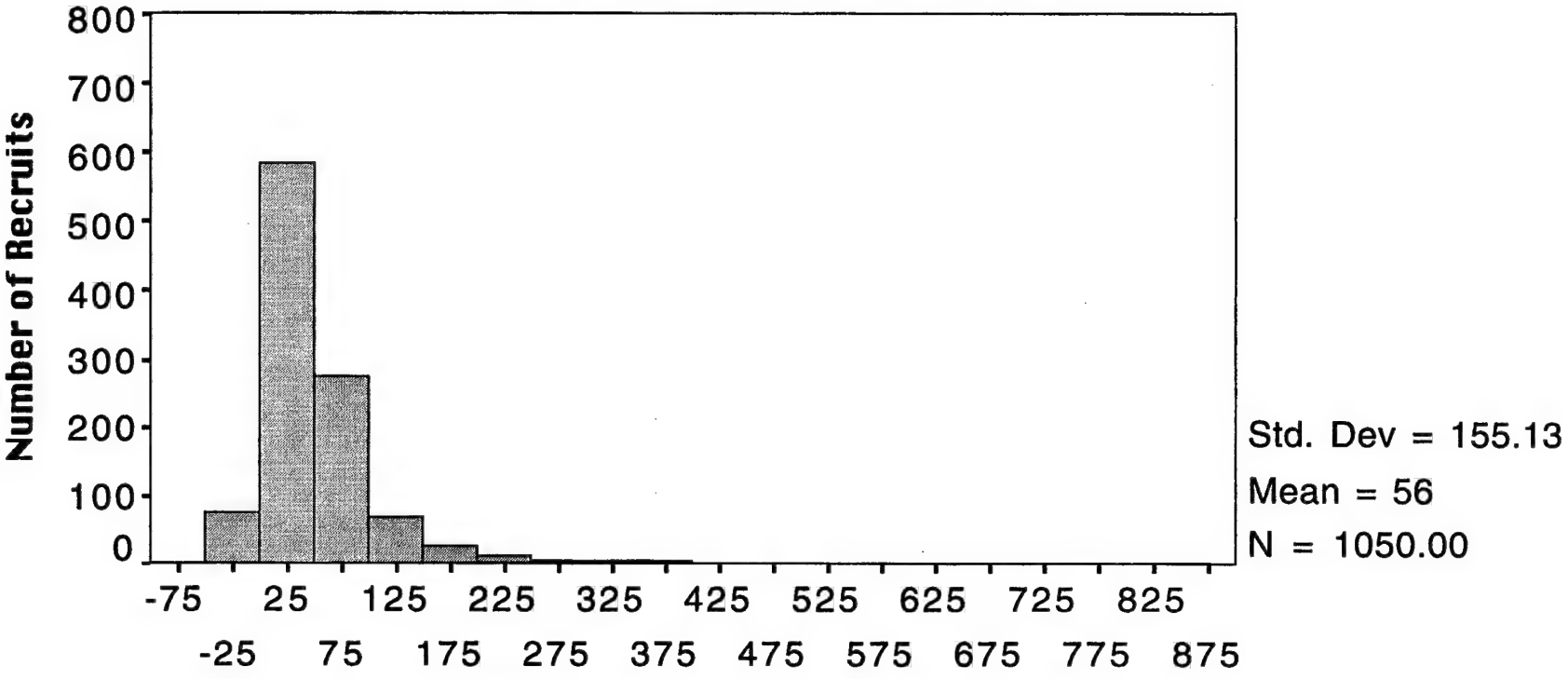
Statistics for DEL_PU:

Mean	55.846	Median	37.321	Mode	.000
Std dev	155.128	Variance	24064.638	Range	4243.860
Minimum	-43.860	Maximum	4200.000		

Valid cases 1050 Missing cases 0

Formula: (OC_PU4-OC_PU1)/OC_PU1*100

FB '89 % CHANGE FROM PU1 TO PU4



% Change from Push-Ups for PT Test 1 to Push-Ups for PT Test 4

FB Charts:FB del%PU 1/9/97 [900%=10 fold increase]

del%PU Categories: (-100)-(-50.1), (-50)-(-0.1), 0-49.9, ..., 850-899.9

08 Jan 97 SPSS 6.1 for the Power Macintosh

DEL_SU1 Percent Change from Sit-Ups for PT Test 1 to Sit-Ups for PT Test 4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
-50-(-.01)	-50.00	112	10.6	10.6	10.6	
0-49.99	.00	726	69.0	69.0	79.7	
50-99.99	50.00	169	16.1	16.1	95.7	
100-149.99	100.00	29	2.8	2.8	98.5	
150-199.99	150.00	8	.8	.8	99.2	
200-249.99	200.00	5	.5	.5	99.7	
250-299.99	250.00	2	.2	.2	99.9	
						Data below this line
2350-2399.99	2350.00	1	.1	.1	100.0	not shown on graph
	Total	1052	100.0	100.0		

Valid cases 1052 Missing cases 0

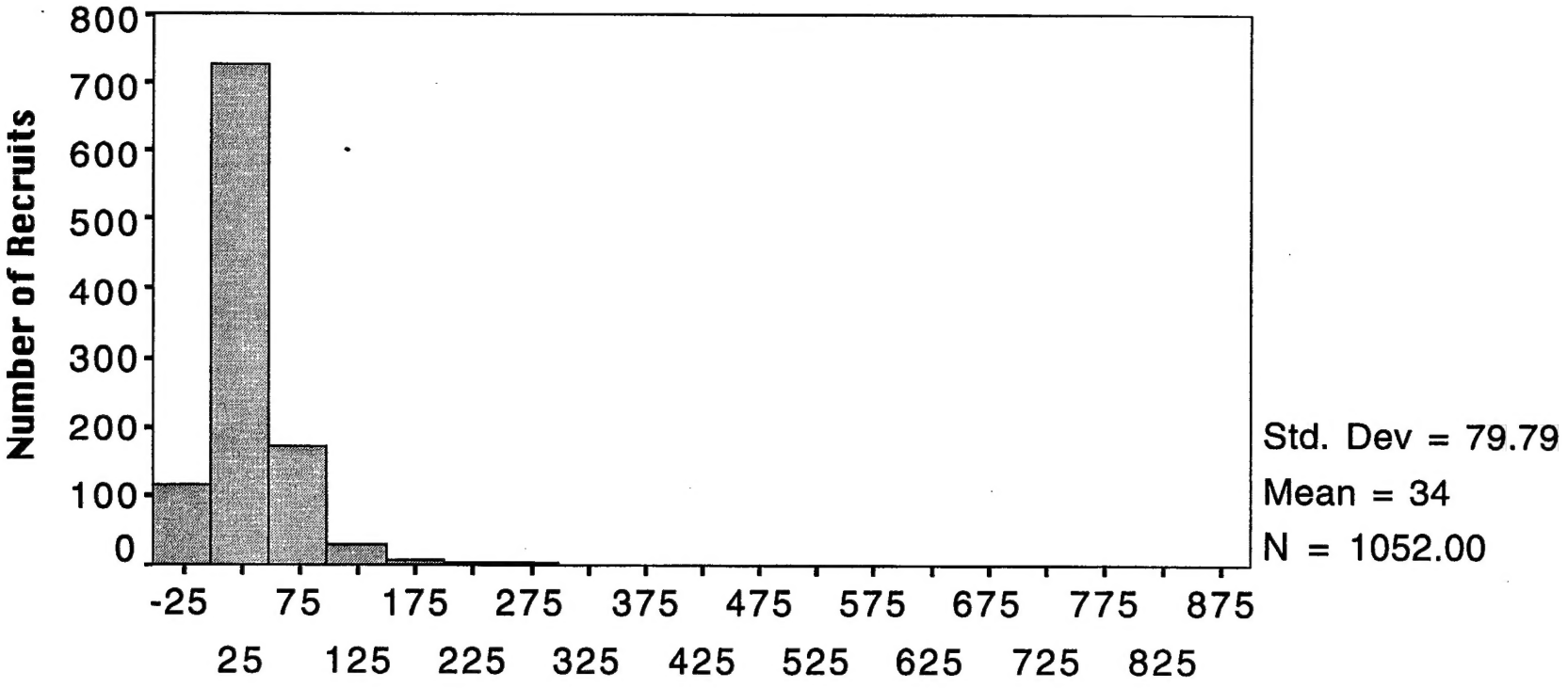
Statistics for DEL_SU:

Mean	34.143	Median	26.365	Mode	50.000
Std dev	79.792	Variance	6366.744	Range	2408.333
Minimum	-41.667	Maximum	2366.667		

Valid cases 1052 Missing cases 0

Formula: (OC_SU4-OC_SU1)/OC_SU1*100

FB '89 % CHANGE FROM SU1 TO SU4 DISTRIBUTION



% Change From Sit-Ups for PT Test 1 to Sit-Ups for PT Test 4

FB Charts: FB del%SU 1/6/97

del%SU Categories: (-50)-(-0.1), 0-49.9, 50-99.9, ..., 850-899.9

3 Jan 97 SPSS 6.1 for the Power Macintosh

DEL_RUN1 Percent Change from Run Time for PT Test 1 to Run Time for PT Test 4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent	
-50-(-45.1)	-50.00	1	.1	.1	.1	
-45-(-40.1)	-45.00	2	.1	.2	.3	
-40-(-35.1)	-40.00	3	.2	.3	.6	
-35-(-30.1)	-35.00	11	.8	1.1	1.6	
-30-(-25.1)	-30.00	28	2.1	2.7	4.3	
-25-(-20.1)	-25.00	62	4.6	6.0	10.3	
-20-(-15.1)	-20.00	113	8.3	10.8	21.1	
-15-(-10.1)	-15.00	180	13.3	17.3	38.4	
-10-(-5.1)	-10.00	224	16.5	21.5	59.9	
-5-(-0.1)	-5.00	195	14.4	18.7	78.6	
0-4.9	.00	128	9.4	12.3	90.9	
5-9.9	5.00	70	5.2	6.7	97.6	
10-14.9	10.00	17	1.3	1.6	99.2	
15-19.9	15.00	4	.3	.4	99.6	
						Data below this line
20-24.9	20.00	1	.1	.1	99.7	not shown on graph
30-34.9	30.00	1	.1	.1	99.8	
80-84.9	80.00	1	.1	.1	99.9	
90-94.9	90.00	1	.1	.1	100.0	
Missing	.	315	23.2	Missing		
	Total	1357	100.0	100.0		

Valid cases 1042 Missing cases 315

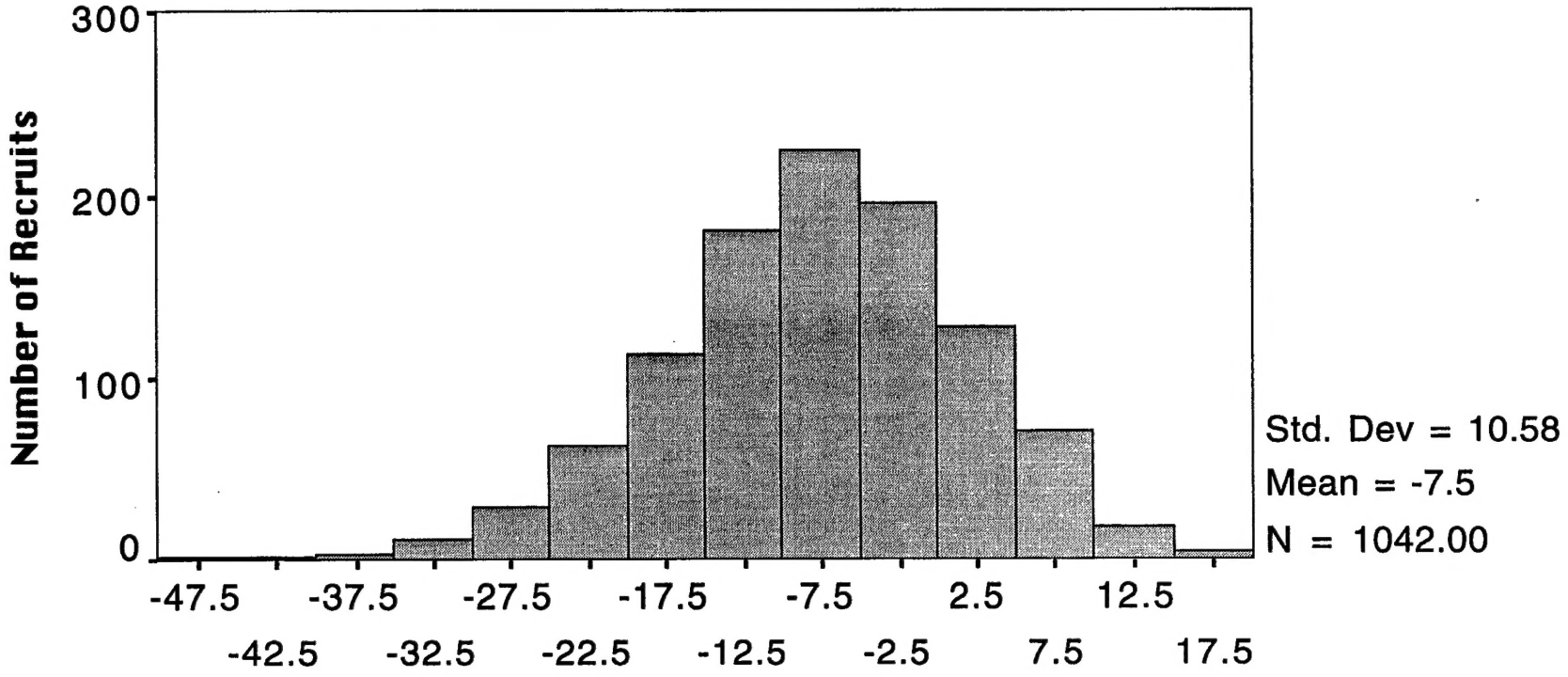
Statistics for DEL_RUN:

Mean	-7.507	Median	-7.189	Mode	.000
Std dev	10.581	Variance	111.964	Range	138.467
Minimum	-45.125	Maximum	93.342		

Valid cases 1042 Missing cases 315

Formula: (AP_RNTM4-AP_RNTM1)/AP_RNTM1*100

FB '89 % CHANGE FROM RUN1 TO RUN4



% Change from Run Time for PT Test 1 to Run Time for PT Test 4

FB Charts:FB del%Run 1/10/97 [-100%=ran twice as fast]

del%Run Categories: (-50)-(-45.1), (-45)-(-40.1), ..., 10-14.9, 15-19.9